SOLICITATION, OFFER, AND AWARD *(Construction, Alteration, or Repair)*	1. SOLICITATION NO. NNK11384684R	2. TYPE OF SOLICITATION [ ] SEALED BID *(IFB)* [X] NEGOTIATED *(RFP)*	3. DATE ISSUED 05/12/2011	PAGE OF PAGES 1 of 174

IMPORTANT — The "offer" section on the reverse must be fully competed by offeror.

4 CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NO.
	4200384684	PCN 98778.1

7. ISSUED BY: CODE OP-CS-A	8. ADDRESS OFFER TO:
JOHN F. KENNEDY SPACE CENTER, NASA PROCUREMENT OFFICE CODE: OP-CS-A KENNEDY SPACE CENTER, FL 32899	See Section L.4, KSC 52.214-90 DELIVERY INSTRUCTIONS FOR BIDS/PROPOSALS

9. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE NO. *(Include area code) (NO COLLECT CALLS)*
	Richard M. Johanboeke, Contracting Officer	(321) 867-0586

SOLICITATION

NOTE: In sealed solicitations "offer" and "offeror" mean "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS *(Title, Identifying no., date):*

1. The contractor shall furnish all labor, equipment, materials and related activities necessary to perform the statement of work for the Payload Hazardous Servicing Facility Mechanical Upgrades at the John F. Kennedy Space Center, Florida.

2. Contract

Line Item	Description
0001	Task 1 – BASE, PHSF MECHANICAL UPGRADES
0002	Task 2 – OPTION 1, Replacement of PHSF AHU #5 and AHU #6
0003	Task 3 – OPTION 2, Replacement of PHSF AHU #3

3. DOL Wage Determination No. FL20100017 04/01/2011 is attached.

11. The Contractor shall begin performance within (*) calendar days and complete it within (*) calendar days after receiving [ ] award, [X] notice to proceed. This performance period is [X] mandatory, [ ] negotiable (See Article F.1)

12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS. *(If "YES," indicate within how many calendar days after award in item 12B.)*	12B. CALENDAR DAYS
YES	10 calendar days

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and **3** copies to perform the work required are due at the place specified in Item 8 by **NOON** local time on **06/30/2011**. If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee [X] is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

D. Offers providing less than **60** calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

OFFER *(Must be fully completed by offeror)*

14. NAME AND ADDRESS OF OFFEROR *(Include ZIP Code)*	15 . TELEPHONE NO. *(Include area code)*
	16. REMITTANCE ADDRESS *(Include only if different than item 14)*
CODE FACILITY CODE	

17. The offeror agrees to perform the work required at the prices below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within _____60_____ calendar days after the date offers are due . *(Insert any number equal to or greater than the minimum requirement stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.*

AMOUNTS	Contract Line Item	Description	Unit	Total
	0001	Task 1 – BASE, PHSF MECHANICAL UPGRADES	JOB	$_____
	0002	Task 2 – OPTION 1, Replacement of PHSF AHU #5 and AHU #6	JOB	$_____
	0003	Task 3 – OPTION 2, Replacement of PHSF AHU #3	JOB	$_____
			TOTAL	**$**_____

19. ACKNOWLEDGEMENT OF AMENDMENTS

(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.										
DATE										

20A . NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER *(Type or Print)*	20 B. SIGNATURE	20C. OFFER DATE

AWARD *(To be completed by Government)*

21. ITEMS ACCEPTED:

Contract Line Item	Description	Unit	Total
0001	Task 1 – BASE, PHSF MECHANICAL UPGRADES	JOB	$_____
0002	Task 2 – OPTION 1, Replacement of PHSF AHU #5 and AHU #6	JOB	$_____
0003	Task 3 – OPTION 2, Replacement of PHSF AHU #3	JOB	$_____
		TOTAL	**$**_____

22. AMOUNT (TOTAL AWARD)	23. ACCOUNTING AND APPROPRIATION DATA
$ _____	4200384684

24. SUBMIT INVOICE TO ADDRESS SHOWN IN *(4 copies unless otherwise specified)*	ITEM	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO
	27	[x] 10 U.S.C. 2304(c) (5) [ ] 41 U.S.C. 253(c) ( )

26. ADMINISTERED BY CODE OP-CS-B	27. PAYMENT WILL BE MADE BY
JOHN F. KENNEDY SPACE CENTER, NASA PROCUREMENT OFFICE CODE: OP-CS-B KENNEDY SPACE CENTER, FL 32899	NASA Shared Services Center (NSSC) Financial Management Division (FMD) – Accounts Payable Bldg 1111, C. Road Stennis Space Center, MS 39529

CONTRACTING OFFICER WILL COMPLET ITEM 28 OR 29 AS APPLICABLE

[ ] 28. NEGOTIATED AGREEMENT *Contractor is required to sign this document and return _____ copies to issuing office.)* Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract..	[ ] 29. AWARD *(Contractor is not required to sign this document.)* Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document necessary.
30A . NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN *(Type or Print)*	31A. NAME OF CONTRACTING OFFICER (*Type or Print)*

30B . SIGNATURE	30C. ATE	31B. UNITED STATES OF AMERICA BY	31C. AWARD DATE D

GPO : 1985 0 - 469-796

STANDARD FORM 1442 BACK (Rev. 4-8)
KSC/OP (12/91

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SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS

B.1 SUPPLIES OR SERVICES AND PRICES

Contract Line Item	Description	Unit	Total
0001	Task 1 – BASE, PHSF MECHANICAL UPGRADES	JOB	$_____
0002	Task 2 – OPTION 1, Replacement of PHSF AHU #5 and AHU #6	JOB	$_____
0003	Task 3 – OPTION 2, Replacement of PHSF AHU #3	JOB	$_____
	TOTAL		$_____

NFS 1852.216-78 FIRM FIXED PRICE. (DEC 1988)

The total firm fixed price of this contract is $ TBD (to be completed at award).

(End of clause)

B.2 INCIDENTAL DELIVERABLES

Incidental deliverables (manuals, reports, plans, and other written documentation) to be provided under this contract are identified in Section J, Attachment J-1/J-A, Incidental Deliverables. Nothing contained in Attachment J-1/J-A shall relieve the Contractor from furnishing data called for by, or under the authority of, other provisions of this contract, which are not identified and described in Attachment J-1/J-A. The cost of data to be furnished in response to Attachment J-1/J-A and other provisions of this contract is included in the firm-fixed price of the awarded contract.

SECTION C - DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

C. 1 SCOPE OF WORK

The Contractor shall furnish all management, supervision, labor, transportation, facilities, materials, tools, disposal, coordination of subcontractors, documentation, and equipment (except any property including utilities as may be specified in the Schedule to be Government-Furnished) and perform all work for the Task(s) named below, and as defined in the Technical Documentation listed below entitled "Contract Drawings, Maps and Specifications," and in accordance with the terms and conditions of this Contract, and within the performance schedule set forth in FAR clause 52.211-10 entitled "Commencement, Prosecution, and Completion of Work." The contractor shall have adequate manpower and resources to perform work in two facilities at one location.

Contract Line Item	Description
0001	Task 1 – BASE, PHSF MECHANICAL UPGRADES
0002	Task 2 – OPTION 1, Replacement of PHSF AHU #5 and AHU #6 See Specifications 79K38541 and/or Drawing Sheets: 1 – 3, 8 – 14, 16, 18, 20 – 25 and 27
0003	Task 3 – OPTION 2, Replacement of PHSF AHU #3 See Specifications 79K38541 and/or Drawing Sheets: 1 – 3, 10 – 14, 17 – 18 and 21 – 27

C. 2 DRAWINGS AND SPECIFICATIONS

(a) Five sets of full scale contract drawings, maps and specifications, (excluding applicable publications incorporated into the technical provisions by reference), plus one CD or DVD containing electronic, portable document format (PDF) versions, will be furnished at award to the Contractor without charge. The work shall conform to the following contract drawings, maps and specifications, attached hereto and made a part hereof.

Drawing 79K38540 Revision A, titled “National Aeronautics and Space Administration John F. Kennedy Space Center PHSF Mechanical Upgrades PCN – 98779.1”, dated 2/2011, pages 1 through 27. Drawing is applicable to CLINs 0001 through 0003.

Specification 79K38541, titled “PHSF Mechanical Upgrades PCN 98779.1)” dated 9/2009, pages 1 through 310. Specification is applicable to CLINs 0001 through 0003.

(b) Addenda to Statement of Work:

Specification 79K38541, Pages 1 thru 310, the following specification sections do not apply and are deleted:

Section: 01 57 20.00 10 Environmental Protection
Parts 1.1 through 1.4 and 1.6 through 3.12

Section: 01 74 19 Construction Demolition and Waste Management
Parts 1.1 through 1.3 and 1.7 through 1.10.4

Section: 02 82 33.13 20 Removal/Control and Disposal of Coatings with Lead, Barium, Cadmium or Mercury
Parts 1.1 through 1.3.2

(c) "Or Equal" Items

Throughout the Technical Specifications and on the drawings of this contract, where certain manufacturers' trade names and model numbers are specified and followed by the term "or equal," the manufacturer's name and data as specified shall represent the minimum standard type, quality, and capacity acceptable for incorporation into the work covered by this contract. The products of other manufacturers will be considered as being acceptable, provided that such products fully meet or exceed all minimum structural or use and operational features of the particular manufacturers' items as specified, and provided that the other manufacturers' items is easily interchangeable and can be adequately incorporated within the allocated space in the building or structure. In all cases, the acceptability of "or equal" items shall be at the Contracting Officer's discretion, based upon approval data submitted by the Contractor in accordance with the requirements under Shop Drawings herein.

(d) Omissions from the drawings or specifications, or the omission or misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work but they shall be performed as if fully and correctly set forth and described in the drawings and specifications.

(e) The Contractor shall check all drawings furnished him immediately upon their receipt and shall promptly notify the Contracting Officer of any discrepancies. Figures marked on drawings shall in general be followed in preference to scale measurements. Large scale drawings shall in general govern small scale drawings. The Contractor shall compare all drawings and verify the figures before laying out the work and will be responsible for any errors which might have been avoided thereby.

C. 3 REQUESTS FOR INFORMATION/CLARIFICATION (RFIC)

The Contractor shall promptly report to the Contracting Officer all problems or conflicting technical information encountered during the contract performance so that the Government may provide solutions or appropriate direction. Such problems shall be reported on KSC Form No. 8-268, "Request for Information/Clarification," to be provided by the Government. A copy of each RFIC will be provided to the Contracting Officer's Technical Representative (COTR) concurrently with the transmittal to the Contracting Officer. The Contractor shall log and control each Request for Information/Clarification (RFIC), including those generated by subcontractors.

C. 4 DEVIATIONS AND WAIVERS

(a) When the Contractor proposes to perform work which does not conform to the requirements of the applicable contract drawings and specifications, the Contractor shall submit to the Contracting Officer for approval, a written request for deviation or request for waiver on the nonconforming work.

(b) All requests by the Contractor shall be submitted on KSC Form 8-69 (Contractor Request to Use Nonconforming Parts or Material) fully executed including an offer of consideration to the Government. The request must be technically supported by justification, rationale, design considerations, calculations and other data which permits ready and conclusive evaluation by the Government as to acceptability or non-acceptability.

(c) Where a requested deviation or waiver on a particular aspect of the work has a relation to, or affects, other aspects of the work, those other aspects of the work shall be clearly identified and referenced. And, if the requested deviation or waiver necessitates a deviation or waiver on other aspects, requests for all such deviations and waivers must be submitted concurrently.

(d) Any request not submitted in strict accordance with this provision will not be considered.

SECTION D - PACKAGING AND MARKING

D. 1 NO CLAUSES IN SECTION D

SECTION E - INSPECTION AND ACCEPTANCE

E.1 LISTING OF FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) AND NASA FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 18) CLAUSES INCORPORATED BY REFERENCE

52.246-12 INSPECTION OF CONSTRUCTION. (APR 1996)

NFS 1852.246-72 MATERIAL INSPECTION AND RECEIVING REPORT (AUGUST 2003)

(a) At the time of each delivery to the Government under this contract, the Contractor shall furnish a Material Inspection and Receiving Report (DD Form 250 series) with an original and three (3) copies.
(b) The Contractor shall prepare the DD Form 250 in accordance with NASA FAR Supplement 1846.6. The Contractor shall enclose the copies of the DD Form 250 in the package or seal them in a waterproof envelope, which shall be securely attached to the exterior of the package in the most protected location.
(c) When more than one package is involved in a shipment, the Contractor shall list on the DD Form 250, as additional information, the quantity of packages and the package numbers. The Contractor shall forward the DD Form 250 with the lowest numbered package of the shipment and print the words "CONTAINS DD FORM 250" on the package.

E.2 BASIC INSPECTION SYSTEM

Pursuant to FAR Clause 52.246-12, entitled "Inspection of Construction," the Contractor shall maintain and implement a basic inspection system as identified below:

(a) Definitions:

"Inspection" means examining and testing supplies or services (including, when appropriate, raw materials, components, and intermediate assemblies) to determine whether they conform to contract requirements.

"Testing" means that element of inspection that determines the properties or elements, including functional operation of supplies or their components, by the application of established scientific principles and procedures.

"Independent Testing Laboratory" means an independent organization, accepted by the Contracting Officer, engaged to perform specific inspections or tests of the work, either at the site or elsewhere, and report the results of these inspections or tests.

(b) The inspection system shall be documented to ensure and provide objective evidence of quality control in the form of records of inspections and test results. The system shall also ensure that nonconforming articles or materials are discovered, documented, and controlled through effective remedial and preventive actions. The Contractor may use, at his option, in whole or in part, his existing higher level inspection system or quality assurance program provided such system is revised and identified to the requirements below.

(c) The Contractor shall provide a narrative description of an inspection system which provides for compliance with the quality requirements and technical criteria of the contract.

(1) Not later than 7 days after award of the contract, the description shall be submitted for review by the Contracting Officer as to its acceptability. The description shall address each of the Basic

Inspection System Requirements identified in paragraph (d) below.

(2) This initial submittal shall address both the general inspection system that will be used during the performance of all work under the contract, along with all project-specific

requirements applicable to the contract, including but not limited to those items identified under paragraphs (d)(1), (d)(2)(iv), (d)(2)(v), and (D)(2)(vi) below.

(d) Basic Inspection System Requirements: The Contractor shall describe how each of the following requirements is to be satisfied and what records will be maintained, both on-site and off-site.

(1) The Contractor shall identify the individual responsible for on-site contact and communication relative to implementation and operation of the inspection system. The name of this individual shall be provided, in writing, to the Contracting Officer's Technical Representative (COTR).

(2) Standard requirements:

(i) A purchasing control system which ensures that all purchasing documents, including those of subcontractors and suppliers, are traceable to the drawings, specifications, and approved submittal requirements.

(ii) A receiving inspection system with documented evidence of Contractor inspection traceable to the procurement documents.

(iii) A system of controls and records for handling, recording, identification and disposition of nonconforming articles and materials.

(iv) A system of identification of inspections required by each specific section of the specifications and drawings and what records will be maintained.

(v) Identification of tests to be performed, including test procedures, test records, and the independent testing organization(s) be utilized.

(vi) Additional requirements (if included in the drawings, specifications, or contract provisions):

(A) Certification or recertification of personnel and qualification of procedures.

(B) Management and accountability of Government Furnished Equipment, components, or materials.

(C) Calibration of inspection test gages, tools, measuring instruments, and independent laboratories to be utilized.

E.3 SYSTEMS ACCEPTANCE AND TESTING

Pursuant to FAR 52.246-12 "Inspection of Construction"; systems tests shall be performed as described below:

(a) SYSTEMS

Systems tests shall be performed on Fire Protection, Fire Suppression, HVAC, Compressed Air and all other assemblies of components which must be tested as an inter-related whole to verify proper functioning.

(b) SYSTEM TEST PROCEDURES

A test procedure and a recording form which documents every step of the system test shall be submitted for approval under the terms of the "Shop Drawings" clause of this contract. Test procedures must be approved prior to requesting a date for testing. Each step in the test procedure shall be witnessed by the Contracting Officer's Representative who shall then date and sign the approved recording form for each step witnessed.

The procedure shall consist of step by step instructions for testing all specified system parameters, system components, and proper overall functioning of the system.

(c) SYSTEM TESTING AND ACCEPTANCE

The following tests shall be performed by the Contractor in strict accordance to the approved test procedure described above.

(1) Functional Test -- This shall be an "in house" test to verify proper installation and functioning of the system and its components. This functional test shall be performed in the presence of Government inspectors and shall be repeated until the Contractor can perform one full test without device or system malfunction.

(2) System Acceptance Test -- After successful completion of the functional testing the system shall be tested formally with full documentation using the previously approved recording form. The Contractor shall notify the Contracting Officer, in writing, forty eight (48) hours prior to system acceptance testing. The appointed Contracting Officer Representative will witness, date and stamp each test in the procedure. Acceptance of the system will be based upon the written approval of the Contracting Officer Technical Representative.

Note: For work involving fire detection and suppression systems, additional testing & acceptance requirements are described in project technical specifications

The contractor shall use the following form for transfer of fire alarm / fire suppression systems from the government to the contractor:

KSC - TRANSFER OF RESPONSIBILITY

FROM:
ISC FIRE PROTECTIVE SYSTEMS – KSC , K6-1446A / KSC-326 Ph. 321-861-4681 / 4683

TO: _____ COMPANY: _____ EFFECTIVE DATE: _____

ADDRESS _____ Phone # _____

EMERGENCY CONTACT: _____ PHONE # _____

SYSTEM: _____

WON #: _____

SYSTEM STATUS: ☐ OPERATIONAL ☐* PARTIALLY FUNCTIONAL ☐ * OUT OF SERVICE
(* Indicate Below)

TRANSFER OF: ☐ ENTIRE SYSTEM ☐ *PARTIAL (Explain Below)

REASON FOR TRANSFER:
_____

CONDITIONS OF TRANSFER: The assignee agrees to the responsibility of the following: Coordination of work on the transferred system described above with the COTR. Assignee is responsible for documenting existing system condition prior to transfer. Assignee also agrees to implement safety plans and alternate workaround procedures that facilitate reporting of emergency/fire/security situations, when applicable. The assignee will assure that any and all modifications, installations and changes to the system are in compliance with the contract documents. The assignee assumes responsibility for returning the system/equipment in an operationally ready state and agrees to demonstrate through functional test, that the system has been installed in accordance with contract specifications and drawings.

Name: _____ Signature:_____ Dated: _____
[Assignee]

Name: _____ Signature: _____ Dated: _____
[ISC Fire Protective Systems Representative]

Name: _____ Signature:_____ Dated: _____
[COTR]

NOTE: A COPY OF THIS TRANSFER SHALL BE POSTED IN OR ATTACHED TO THE SYSTEM/EQUIPMENT BEING TRANSFERRED.

The contractor shall use the following form to communicate readiness for Preliminary Fire Alarm Testing:

CONTRACTOR READINESS AFFIRMATION – For "Preliminary" Fire Alarm Testing
NASA Contract Number: _____

Instructions: General Contractor is responsible to ensure the fire alarm system is "ready" for formal preliminary testing. Circle the proper response and write the date completed. Any 'No' response would typically prevent submission of the form.

CONTRACT #: _____ LOCATION/FACILITY:_____FACILITY #_____

(circle)	Date	
Yes No N/A	_____	Conduit & wiring is complete. Includes continuity/insulation resistance tests & wiring labeling.
Yes No N/A	_____	All fire alarm devices are installed.
Yes No N/A	_____	Auxiliary functions are connected and known to be operational. Example: AHU shutdown
Yes No N/A	_____	Fire alarm panel program, specific to this job, is loaded and operational.
Yes No N/A	_____	All troubles, ground faults, etc. have been removed; system is effectively NORMAL.
Yes No N/A	_____	Fire alarm vendor/subcontractor conducted a "contractor checkout" of the fire alarm system, with completion on this date: _____ which included testing of a sample of inputs and outputs. *Example: rang bells to verify operation in temporal- three pattern, tested 5% of all devices, verified AHU shutdown, verified FACP switched to battery upon loss of 120VAC, etc.*
Yes No N/A	_____	NFPA 72 Record of Completion form is started for the installation.
Yes No N/A	_____	System drawings are available for addition of "red-lines"
Yes No N/A	_____	Support needed for successful completion of the Preliminary Test has been identified in writing to the Contracting Officer. *Examples: support to test existing fire suppressions systems, elevator crew support, HVAC crew support, security system crew support to verify mag-locks are de-energized, etc.*

The undersigned attests that the subject fire alarm system is ready for PRELIMINARY TEST;

Name:_____ Signature:_____
[General Contractor Representative]

Form Completion Date: _____ Proposed Preliminary Test Date(s):_____

Transmit this form per Submittal schedule as required by the contract.

Nothing in this clause shall relieve the requirements of FAR 52.246-12, "Inspection of Construction."

E.4 FINAL INSPECTION AND ACCEPTANCE

Final inspection and acceptance of all work under this contract will be conducted by the Contracting Officer's Technical Representative (COTR). Upon satisfactory completion of the contract, the Contractor shall be paid the fixed-price value of the contract, less the amount of any progress payments made under FAR Clause 52.232.5, Payments Under Fixed-Price Construction Contracts.

NOTE: For planning purposes, the contractor shall include a line item in the schedule of values and progress schedule for completion of punch-list items, site clean-up, demobilization and final construction (as-built) drawings. The amount of this line item shall be equal to 10% of the contract value or $100,000, whichever is less. The Government will not pay final invoices for this amount until all punch-list, site clean-up, and demobilization activities are complete; final construction drawings are delivered; and final acceptance is made on DD Form 250, Material Inspection and Receiving Report.

SECTION F - DELIVERIES OR PERFORMANCE

F.1 LISTING OF FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) PROVISIONS INCORPORATED BY REFERENCE AND IN FULL TEXT

52.242-14 SUSPENSION OF WORK (APR 1984)

52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK. (APR 1984)

The Contractor shall be required to (a) commence work under this contract within 10 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than the number of calendar days listed in the table below. The time stated for completion shall include final cleanup of the premises.

	Calendar Days after the date the Contractor receives the Notice to Proceed for Base Bid
Task 1 – BASE - PHSF Mechanical Upgrades.	270 Calendar days after Notice to Proceed
OPTION 1 - Task 2 – Replacement of PHSF AHU #5 and AHU #6.	If Option 1, is exercised excluding Option 2, the Total Contract Performance Period shall Not Exceed 360 calendar days; however, the requirements of Task 1 (Base Bid) shall not exceed 270 calendar days
OPTION 2 - Task 3 – Replacement of PHSF AHU #3.	If Option 2, is exercised excluding Option 1, the Total Contract Performance Period shall Not Exceed 360 calendar days; however, the requirements of Task 1 (Base Bid) shall not exceed 270 calendar days
OPTIONS 1 & 2	If Option 1 and 2, are exercised, the Total Contract Performance Period shall Not Exceed 450 calendar days; however, the requirements of Task 1 (Base Bid) shall not exceed 270 calendar days

F. 2 PLACE AND PERIOD OF PERFORMANCE

This project is located in the Payload Hazardous Servicing Facility at the John F. Kennedy Space Center, Florida Work will include performance in controlled access areas, mission critical facilities, and hazardous locations.

F. 3 KSC 52.211-92 WORK PERIOD

Contractor's work day will be limited to first shift 7:00 A.M. to 3:30 P.M., on Monday through Friday only. Any other work period will require special/ written approval from the Contracting Officer seven (7) days in advance of proposed change in work periods.

F. 4 DOWNTIME AND EXCAVATION

For the purposes of this contract, the Contractor shall allow in his bid for a maximum of 10 days during which all construction activities will be prohibited. In addition the Contractor shall allow for a maximum of 5 days during which all excavation and other subsurface activities will be prohibited but other construction activities will be allowed. The Government will provide twenty-four hours notice each time these restrictions are invoked. Excavation permits are expected to be issued at the Pre-Work Conference.

SECTION G - CONTRACT ADMINISTRATION DATA

G. 1 NASA FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 18) CLAUSES INCORPORATED BY REFERENCE

NFS 1852.242-70 TECHNICAL DIRECTION (SEP 1993)

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H. 1 NASA FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 18) CLAUSES INCORPORATED BY REFERENCE

NFS 1852.223-75 MAJOR BREACH OF SAFETY OR SECURITY (FEB 2002)

H.2 NFS 1852.223-70 SAFETY AND HEALTH (APR 2002)

(a) Safety is the freedom from those conditions that can cause death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment. NASA's safety priority is to protect: (1) the public, (2) astronauts and pilots, (3) the NASA workforce (including contractor employees working on NASA contracts), and (4) high-value equipment and property.

(b) The Contractor shall take all reasonable safety and occupational health measures in performing this contract. The Contractor shall comply with all Federal, State, and local laws applicable to safety and occupational health and with the safety and occupational health standards, specifications, reporting requirements, and any other relevant requirements of this contract.

(c) The Contractor shall take, or cause to be taken, any other safety, and occupational health measures the Contracting Officer may reasonably direct. To the extent that the Contractor may be entitled to an equitable adjustment for those measures under the terms and conditions of this contract, the equitable adjustment shall be determined pursuant to the procedures of the changes clause of this contract; provided, that no adjustment shall be made under this Safety and Health clause for any change for which an equitable adjustment is expressly provided under any other clause of the contract.

(d) The Contractor shall immediately notify and promptly report to the Contracting Officer or a designee any accident, incident, or exposure resulting in fatality, lost-time occupational injury, occupational disease, contamination of property beyond any stated acceptable limits set forth in the contract Schedule; or property loss of $25,000 or more, or Close Call (a situation or occurrence with no injury, no damage or only minor damage (less than $1,000) but possesses the potential to cause any type mishap, or any injury, damage, or negative mission impact) that may be of immediate interest to NASA, arising out of work performed under this contract. The Contractor is not required to include in any report an expression of opinion as to the fault or negligence of any employee. In addition, service contractors (excluding construction contracts) shall provide quarterly reports specifying lost-time frequency rate, number of lost-time injuries, exposure, and accident/incident dollar losses as specified in the contract Schedule.

(e) The Contractor shall investigate all work-related incidents, accidents, and Close Calls, to the extent necessary to determine their causes and furnish the Contracting Officer a report, in such form as the Contracting Officer may require, of the investigative findings and proposed or completed corrective actions.

(f) (1) The Contracting Officer may notify the Contractor in writing of any noncompliance with this clause and specify corrective actions to be taken. When the Contracting Officer becomes aware of noncompliance that may pose a serious or imminent danger to safety and health of the public, astronauts and pilots, the NASA workforce (including contractor employees working on NASA contracts), or high value mission critical equipment or property, the Contracting Officer shall notify the Contractor orally, with written confirmation. The Contractor shall promptly take and report any necessary corrective action.

(2) If the Contractor fails or refuses to institute prompt corrective action in accordance with subparagraph (f) (1) of this clause, the Contracting Officer may invoke the stop-work order clause

in this contract or any other remedy available to the Government in the event of such failure or refusal.

(g) The Contractor (or subcontractor or supplier) shall insert the substance of this clause, including this paragraph (g) and any applicable Schedule provisions and clauses, with appropriate changes of designations of the parties, in all solicitations and subcontracts of every tier, when one or more of the following conditions exist:

(1) The work will be conducted completely or partly on premises owned or controlled by the Government.

(2) The work includes construction, alteration, or repair of facilities in excess of the simplified acquisition threshold.

(3) The work, regardless of place of performance, involves hazards that could endanger the public, astronauts and pilots, the NASA workforce (including Contractor employees working on NASA contracts), or high value equipment or property, and the hazards are not adequately addressed by Occupational Safety and Health Administration (OSHA) or Department of Transportation (DOT) regulations (if applicable).

(4) When the Contractor (or subcontractor or supplier) determines that the assessed risk and consequences of a failure to properly manage and control the hazard(s) warrants use of the clause.

(h) The Contractor (or subcontractor or supplier) may exclude the provisions of paragraph (g) from its solicitation(s) and subcontract(s) of every tier when it determines that the clause is not necessary because the application of the OSHA and DOT (if applicable) regulations constitute adequate safety and occupational health protection. When a determination is made to exclude the provisions of paragraph (g) from a solicitation and subcontract, the Contractor must notify and provide the basis for the determination to the Contracting Officer. In subcontracts of every tier above the micro-purchase threshold for which paragraph (g) does not apply, the Contractor (or subcontractor or supplier) shall insert the substance of paragraphs (a), (b), (c), and (f) of this clause).

(i) Authorized Government representatives of the Contracting Officer shall have access to and the right to examine the sites or areas where work under this contract is being performed in order to determine the adequacy of the Contractor's safety and occupational health measures under this clause.

(j) The contractor shall continually update the safety and health plan when necessary. In particular, the Contractor shall furnish a list of all hazardous operations to be performed, and a list of other major or key operations required or planned in the performance of the contract, even though not deemed hazardous by the Contractor. NASA and the Contractor shall jointly decide which operations are to be considered hazardous, with NASA as the final authority. Before hazardous operations commence, the Contractor shall submit for NASA concurrence -

(1) Written hazardous operating procedures for all hazardous operations; and/or

(2) Qualification standards for personnel involved in hazardous operations.

(End of clause)

H.3 NFS 1852.225-70 EXPORT LICENSES. (FEB 2000)

(a) The Contractor shall comply with all U.S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export

Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of hardware, technical data, and software, or for the provision of technical assistance.

(b) The Contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at the John F. Kennedy Space Center, where the foreign person will have access to export-controlled technical data or software.

(c) The Contractor shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.

(d) The Contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors.

H.4 NFS 1852.242-72 OBSERVANCE OF LEGAL HOLIDAYS. (AUG 1992)

(a) The on-site Government personnel observe the following holidays:

New Year's Day
Labor Day
Martin Luther King, Jr.'s Birthday
Columbus Day
President's Day
Veterans Day
Memorial Day
Thanksgiving Day
Independence Day
Christmas Day
Any other day designated by Federal statute, Executive order, or the President's proclamation.

(b) When any holiday falls on a Saturday, the preceding Friday is observed. When any holiday falls on a Sunday, the following Monday is observed. Observance of such days by Government personnel shall not by itself because for an additional period of performance or entitlement of compensation except as set forth within the contract.

(End of clause)

H.5 KSC 52.223-121 REPORTING OF INCIDENTS INVOLVING WORKPLACE VIOLENCE (JUL 2008)

The contractor shall conduct training on and develop procedures for recognizing, managing and responding to incidents and threats of workplace violence as defined in NASA Policy Directive (NPD) 1600.3. Contractors shall also promptly report all incidents involving workplace violence to the Protective Services Office. If the NASA Workplace Violence Prevention and Response (WVPR) Team Chair and Co Chair determine it is appropriate for the contractor to participate in a WVPR Team meeting, the contractor shall comply with the WVPR Team request. The contractor is also responsible for reporting disposition of the incident reported to the NASA WVPR Team. This requirement shall flow down to the subcontractors, however the subcontractors shall report up through the prime contractor.

H.6 KSC 52.242-90 CONTROLS APPLICABLE TO CONTRACTORS' ACTIVITIES (Jan 2011)

The publications below, and subsequent revisions thereof, are incorporated herein by reference. These publications prescribe regulatory and procedural criteria which are applicable to this contract. The contractor shall promptly take corrective action upon notice of noncompliance from the Contracting Officer or his/her authorized representative(s) with any provision of the publications listed below. Any questions regarding this clause or applicability of compliance documents should be directed to the Contracting Officer.

The following compliance documents may be found at:
http://tdglobal.ksc.nasa.gov/ReferencedDocuments/

45SWI40-201	45th Space Wing Instruction 40-201 Radiation Protection Program (In addition to KNPD 1860.1, applicable to contracts for services performed at CCAFS)
KNPR 8715.2	Comprehensive Emergency Management Plan
KNPD 1440.1	KSC Records Management Program
KNPR 1600.1	KSC Security Procedural Requirements
KNPD 1600.3	Use of Alcoholic Beverages on Kennedy Space Center (KSC) Property
KNPD 1800.2	KSC Hazard Communication Program - In addition, Contractor shall submit the material safety data sheets in hard copy to the MESC or successor contractor for NASA/KSC Materials Safety Data Sheet Archive.
KNPD 1810.1	KSC Occupational Medicine Program
KNPR 1820.3	KSC Hearing Loss Prevention Program
KNPR 1820.4	KSC Respiratory Protection Program
KNPR 1840.19	KSC Industrial Hygiene Programs
KNPR 1860.1	KSC Ionizing Radiation Protection Program
KNPR 1860.2	KSC Nonionizing Radiation Protection Program
KNPR 1870.1	KSC Sanitation Program
KNPR 2570.1	KSC Radio Frequency Spectrum Management Procedural Requirements During periods of special testing on Kennedy Space Center and at the Cape Canaveral Air Force Station, the Contractor may be required to cease radiating on any radio equipment that may be utilized at the time. Any construction equipment utilized by the Contractor which may be causing radio frequency interference will be required to shut down until the interference is mitigated.
KNPR 4000.1	Supply and Equipment System Manual
KNPR 6000.1	Transportation Support System
KNPR 8500.1	KSC Environmental Management
KNPR 8715.3	KSC Safety Practices Procedural Requirements
KNPR 8830.1	Facilities and Real Property Management Procedural Requirements

H.7 KSC 52.242-93 CONTRACTOR WORKFORCE REPORT - ONSITE CONTRACTORS AND SUBCONTRACTORS (OCT 2006)

The Contractor shall submit, on a quarterly basis, a manpower report delineating information about its workforce. The report shall include: the contract number, the contractor's total on-site workforce, total on-site union represented employees by bargaining unit, total on-site non-union represented employees, and total off-site workforce performing on the contract. The Contractor shall provide this information no later than 10 days after the close of each reporting period which end March 31st, June 30th, September 30th, and December 31st. The report shall be submitted to the Contracting Officer with copies to Workforce Planning and Analysis Office, (Code BA-D) and Industrial Labor Relations Office (Code OP).

(End of clause)

H.8 SAFETY AND HEALTH

Pursuant to NFS 1852.223-70, Safety and Health:

(a) Safety is the freedom from those conditions that can cause death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment. NASA's safety priority is to protect: the public, astronauts and pilots, the NASA workforce (including contractor employees working on NASA contracts), and high-value equipment and property.

(b) The Contractor shall take all reasonable safety and occupational health measures in performing this contract. The Contractor shall comply with all Federal, State, and local laws applicable to safety and occupational health and with the safety and occupational health standards, specifications, reporting requirements, and any other relevant requirements of this contract.

(c) Kennedy Space Center Voluntary Protection Program (VPP)

Kennedy Space Center has implemented a comprehensive safety and health management system, and has demonstrated its commitment to providing and maintaining a safe workplace by successfully completing a rigorous evaluation process to achieve recognition by the Occupational Health and Safety Administration (OSHA) as a "Voluntary Protection Program (VPP) Star Worksite." The VPP program promotes effective worksite-based safety and health, encourages employers and employees to reduce the number of occupational safety and health hazards at their places of employment, establishes cooperative relationships between management, labor, and OSHA, and serves to augment limited OSHA resources.

(d) Reporting Procedures for Close Calls and Mishaps

(Also reference NFS 1852.223-70, Safety and Health)

The contractor shall submit a NASA Direct Construction Contractor Mishap Report Form (KDP-F-3645) to the Contracting Officer to document close calls or mishaps and associated corrective actions. In addition, the Contracting Officer will issue a "Notice of Violation" to document safety violations under this contract. The Contractor shall use the form provided to communicate actions taken to correct or mitigate safety/health non-conformance at the job-site, as well as any corrective actions taken to prevent recurrence. This report must be posted on the job site until all corrective actions have been completed.

In the event the non-compliance poses imminent danger, the Contracting Officer may invoke the stop-work order clause in this contract until such time as the immediate hazard has been mitigated. If the Contractor fails or refuses to institute prompt corrective action, the Contracting Officer may invoke the stop-work order clause or any other remedy available to the Government in the event of such failure or refusal.

The Contractor (or subcontractor or supplier) shall insert the "Reporting Procedures for Close Calls and Mishaps" section of this clause, including this paragraph and any applicable Schedule provisions and clauses, with appropriate changes of designations
of the parties, in all solicitations and subcontracts of every tier, when the work will be conducted completely or partly on premises owned or controlled by the Government.

SECTION I - CONTRACT CLAUSES

I.1 CLAUSES INCORPORATED BY REFERENCE (52.252-2) (FEB 1998)

This document incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at these addresses:

http://www.ksc.nasa.gov/procurement/clause/
http://prod.nais.nasa.gov/cgi-bin/nais/index.cgi
http://ec.msfc.nasa.gov/hq/library/v-reg.htm.

I. 2 LISTING OF FEDERAL ACQUISITION REGULATION (48 CFRCHAPTER 1) CLAUSES INCORPORATED BY REFERENCE

52.202-1 DEFINITIONS (JUL 2004)

52.203-3 GRATUITIES (APR 1984)

52.203-5 COVENANT AGAINST CONTINGENT FEES (APR 1984)

52.203-6 RESTRCTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (SEP 2006)

52.203-7 ANTI-KICKBACK PROCEDURES (OCT 2010)

52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (OCT 2010)

52.204-4 PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER (AUG 2000)

52.204-7 CENTRAL CONTRACTOR REGISTRATION (APR 2008)

52.204-9 PERSONAL IDENTITY VERIFICATION OF CONTRACTOR PERSONNEL (JAN 2011)

52.204-10 REPORTING EXECUTIVE COMPENSATION FOR FIRST-TIER SUBCONTRACT AWARDS (JUL 2010)

52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (DEC 2010)

52.215-2 AUDIT AND RECORDS - NEGOTIATION (OCT 2010)

52.215-8 ORDER OF PRECEDENCE - UNIFORM CONTRACT FORMAT

(OCT 1997)

52.215-10 PRICE REDUCTION FOR DEFECTIVE CERTIFIED COST OR PRICING DATA (Oct 2010)

52.215-11 PRICE REDUCTION FOR DEFECTIVE CERTIFIED COST OR PRICING DATA – MODIFICATIONS (Oct 2010)

52.215-12 SUBCONTRACTOR CERTIFIED COST OR PRICING DATA (OCT 2010)

52.215-13 SUBCONTRACTOR COST OR PRICING DATA - MODIFICATIONS (OCT 2010)

52.215-21 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA - MODIFICATIONS (OCT 2010)

ALTERNATE III (OCT 1997)
c) Submit the cost portion of the proposal via the following electronic media: MS Excel. Submit via e-mail.

ALTERNATE IV (OCT 2010)
b) Vendor quotations, estimated resources, non-reoccurring costs and other pricing data in MS Excel format.

52.219-4 NOTICE OF PRICE EVALUATION PRFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (JAN 2011)

52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (JAN 2011)

52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION (APR 2009)

52.222-1 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (FEB 1997)

52.222-3 CONVICT LABOR (JUN 2003)

52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION (JUL 2005)

52.222-6 DAVIS-BACON ACT (JUL 2005)

52.222-7 WITHHOLDING OF FUNDS (FEB 1988)

52.222-8 PAYROLLS AND BASIC RECORDS (JUN 2010)

52.222-9 APPRENTICES AND TRAINEES (JUL 2005)

52.222-10 COMPLIANCE WITH COPELAND ACT REQUIREMENTS (FEB 1988)

52.222-11 SUBCONTRACTS (LABOR STANDARDS) (JUL 2005)

52.222-12 CONTRACT TERMINATION - DEBARMENT (FEB 1988)

52.222-13 COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS (FEB 1988)

52.222-14 DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)

52.222-15 CERTIFICATION OF ELIGIBILITY (FEB 1988)

52.222-21 PROHIBITION OF SEGREGATED FACILITIES (FEB 1999)

52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

[inserts: (b) Minority participation goal: 10.7%
Female participation goal: 6.9%

(e) Kennedy Space Center and
Cape Canaveral Air Force Station,
Brevard County, Florida]

52.222-26 EQUAL OPPORTUNITY (MAR 2007)

52.222-27 AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (FEB 1999)

52.222-35 EQUAL OPPORTUNITY FOR VETERANS (SEP 2010)

52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (OCT 2010)

52.222-40 NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL RELATIONS BOARD (DEC 2010)

52.222-50 COMBATING TRAFFICKING IN PERSONS (FEB 2009)

52.222-54 EMPLOYMENT ELIGIBILITY VERIFICATION (JAN 2009)

52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997) - ALTERNATE I (JUL 1995)

Material (*If none, insert "None"*)	Identification No.
"None"	

52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (AUG 2003)

52.223-6 DRUG-FREE WORKPLACE. (MAY 2001)

52.223-14 TOXIC CHEMICAL RELEASE REPORTING. (AUG 2003)

52.223-15 ENERGY EFFICIENCY IN ENERGY-CONSUMING PRODUCTS (DEC 2007

52.223-17 AFFIRMATIVE PROCUREMENT OF EPA-DESIGNATED ITEMS IN SERVICE AND CONSTRUCTION CONTRACTS (MAY 2008)

52.223-18 CONTRACTOR POLICY TO BAN TEXT MESSAGING WHILE DRIVING (SEP 2010)

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (JUN 2008)

52.227-1 AUTHORIZATION AND CONSENT (DEC 2007)

52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (DEC 2007)

52.227-4 PATENT INDEMNITY--CONSTRUCTION CONTRACTS (DEC 2007)

52.228-2 ADDITIONAL BOND SECURITY (OCT 1997)

52.228-5 INSURANCE - WORK ON A GOVERNMENT INSTALLATION (JAN 1997)

52.228-11 PLEDGES OF ASSETS (SEP 2009)

52.228-12 PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS (OCT 1995)

52.228-14 IRREVOCABLE LETTER OF CREDIT. (DEC 1999)

52.228-15 PERFORMANCE AND PAYMENT BONDS - CONSTRUCTION (OCT 2010)

52.229-3 FEDERAL, STATE, AND LOCAL TAXES (APR 2003)

52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (SEP 2002)

52.232-17 INTEREST (OCT 2010)

52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986)

52.232-27 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (OCT 2008)

Submit Invoices To:

1 – COPY
NASA John F. Kennedy Space Center
Procurement Office, Code OP-CS-B
Kennedy Space Center, FL 32899

1 - ORIGINAL
NASA Shared Services Center (NSSC)
Financial Management Division (FMD)

Accounts Payable
Bldg 1111, C. Road
Stennis Space Center, MS 39529
FAX: 866-209-5415
Email: NSSC-AccountsPayable@nasa.gov

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER - CENTRAL CONTRACTOR REGISTRATION (OCT 2003)

52.233-1 DISPUTES (JUL 2002)

52.233-3 PROTEST AFTER AWARD (AUG 1996)

52.233-4 APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM (OCT 2004)

52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)
The Contractor shall perform on the site, and with its own organization, work equivalent to at least fifteen (15) percent of the total amount of work to be performed under the contract.

52.236-2 DIFFERING SITE CONDITIONS (APR 1984)

52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)

52.236-5 MATERIAL AND WORKMANSHIP (APR 1984)

52.236-6 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)

52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

52.236-8 OTHER CONTRACTS (APR 1984)

52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)

52.236-10 OPERATIONS AND STORAGE AREAS (APR 1984)

52.236-11 USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)

52.236-12 CLEANING UP (APR 1984)

52.236-13 ACCIDENT PREVENTION (NOV 1991) - ALTERNATE I (NOV 1991)

52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS. (APR 1984)

52.236-17 LAYOUT OF WORK (APR 1984)

52.236-21 SPECIFICATION AND DRAWINGS FOR CONSTRUCTION (FEB 1997)

52.236-26 PRECONSTRUCTION CONFERENCE (FEB 1995)

52.242-13 BANKRUPTCY (JUL 1995)

52.243-4 CHANGES (JUN 2007)

52.243-6 CHANGE ORDER ACCOUNTING (APR 1984)

52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS (DEC 2010)

52.246-21 WARRANTY OF CONSTRUCTION (MAR 1994)

52.248-3 VALUE ENGINEERING - CONSTRUCTION (OCT 2010)

52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (MAY 2004) - ALTERNATE I (SEP 1996)

52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION). (APR 1984)

52.253-1 COMPUTER GENERATED FORMS. (JAN 1991)

I. 3 NASA FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 18) CLAUSES INCORPORATED BY REFERENCE

NFS 1852.209-72 COMPOSITION OF THE CONTRACTOR. (DEC 1988)

NFS 1852.215-84 OMBUDSMAN (OCT 2003)

Kelvin M. Manning
Kennedy Space Center
Code AA-B
Kennedy Space Center, FL32899
Telephone Number (321)867-7246
Telefax Number (321)867-8807
E-Mail: kelvin.m.manning@nasa.gov

NFS 1852.219-74 USE OF RURAL AREA SMALL BUSINESSES. (SEP 1990)

NFS 1852.219-76 NASA 8 PERCENT GOAL. (JUL 1997)

NFS 1852.228-75 MINIMUM INSURANCE COVERAGE. (OCT 1988)

NFS 1852.236-73 HURRICANE PLAN (DEC 1988)

NFS 1852.243-71 SHARED SAVINGS. (MAR 1997)

I. 4 LISTING OF FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) NASA FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 18) AND KSC CLAUSES INCORPORATED IN FULL TEXT

52.223-9 ESTIMATE OF PERCENTAGE OF RECOVERED MATERIAL CONTENT FOR EPA-DESIGNATED ITEMS (MAY 2008)

(a) *Definitions*. As used in this clause—

“Postconsumer material” means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of “recovered material.”

“Recovered material” means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

(b) The Contractor, on completion of this contract, shall—

(1) Estimate the percentage of the total recovered material content for EPA-designated item(s) delivered and/or used in contract performance, including, if applicable, the percentage of post-consumer material content; and

(2) Submit this estimate to the Contracting Officer.

(End of clause)

52.225-9 BUY AMERICAN ACT - CONSTRUCTION MATERIALS (SEP 2010)

(a) *Definitions*. As used in this clause -

"Commercially available off-the-shelf (COTS) item"--

(1) Means any item of supply (including construction material) that is--

(i) A commercial item (as defined in paragraph (1) of the definition at FAR 2.101);

(ii) Sold in substantial quantities in the commercial marketplace; and

(iii) Offered to the Government, under a contract or subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace; and

(2) Does not include bulk cargo, as defined in section 3 of the Shipping Act of 1984 (46 U.S.C. App. 1702), such as agricultural products and petroleum products.

"Component" means an article, material, or supply incorporated directly into a construction material.

"Construction material" means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased
directly by the Government are supplies, not construction material.

"Cost of components" means -

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or

not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

"Domestic construction material" means--

(1) An unmanufactured construction material mined or produced in the United States;

(2) A construction material manufactured in the United States, if--

(i) The cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic; or

(ii) The construction material is a COTS item.

"Foreign construction material" means a construction material other than a domestic construction material.

"United States" means the 50 States, the District of Columbia, and outlying areas.

(b) Domestic preference. (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. In accordance with 41 U.S.C. 431, the component test of the Buy American Act is waived for construction material that is a COTS item (See FAR 12.505(a)(2)). The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows:

None.

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that -

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) *Request for determination of inapplicability of the Buy American Act*. (1)(i) Any Contractor request to

use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including -

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) *Data*. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction Material Description	Unit of Measure	Quantity	Price (Dollars)*
Item 1:			
Foreign construction material	_____	_____	_____
Domestic construction material	_____	_____	_____
Item 2:			
Foreign construction material	_____	_____	_____

Domestic construction material _____ _____ _____

List *name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.*

Include other applicable supporting information.

** Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).*

52.236-4 PHYSICAL DATA (APR 1984)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by benchmarks for vertical control, elevations, and dimensions from existing features. The Contractor shall be responsible for any surveys, augers, borings, core borings, test pits, probing, or other investigations necessary or incidental to performance of the work.

(b) Weather conditions: The climate of the Cape Canaveral-Kennedy Space Center, Florida area is subtropical with short, mild winters and hot, humid summers. Summer extends from the middle of May to the middle of October with the highest mean temperatures in July and August and the extreme highest temperatures in June. Area thunderstorms occurring during the summer months can be violent with cloud to ground lightning, heavy rain and strong gusty winds. The hurricane season begins in June and ends in December with the highest frequency in August, September, and October. Winter temperatures range from the probability of an 80 degree high during each month to at least one occasion (per winter) of below freezing conditions. Mean average maximum-minimum temperatures and mean average rainfall is 78.6 degrees – 64.0 degrees and 48.53 inches for Cape Canaveral and 79.4 degrees – 65.4 degrees and 53.21 inches for Kennedy Space Center. Detailed climate data may be obtained from the Patrick Air Force Base Weather Services, 321-853-8485, Patrick Air Force Base, Florida.

(c) Transportation facilities:

(1) ROAD: The Cape Canaveral-Kennedy Space Center area is accessible via Florida State Highways 3, 401, 405, 520, and 528 and U.S. Highways 1 and A1A. Perimeter gates to Kennedy Space Center and Cape Canaveral Air Force Station are located at Highway 401 (Gate 1), South Highway 3 (Gate 2), Highway 405 (Gate 3), and North Highway 3 (Gate 4). All gates are normally operational during first shift hours. Off shift hours may vary, and additional schedule or access limitations will be in place during critical launch processing operations.

(2) RAIL: Government trackage connects with the Florida East Coast Railway Company (FEC) at Jay-Jay, Florida, approximately 3 miles north of Titusville, Florida. Shipping destination should be shown as "Titusville, Florida for Kennedy Space Center, Florida." NASA locomotives move cars between Jay-Jay and various locations on Kennedy Space Center. Side and end ramps are available in the KSC Industrial Area.

(3) WATER (OCEAN): United States Air Force and Navy and commercial dock facilities are available at Port Canaveral, Florida.

(4) WATER (OTHER): The Kennedy Space Center Vehicle Assembly Building (VAB) Marine Terminal and Cape Canaveral Air Force Station barge facilities are accessible via the inland waterway through the Banana River.

(5) AIR (COMMERCIAL): Facilities serving the area are located at Melbourne (approximately 42 miles) and Orlando (approximately 55 miles) Florida. Pickup and delivery of air shipments is available.

Detailed information on availability and limitation of facilities, shipping and billing may be obtained from the Supply, Equipment, Transportation and Center Support Branch, Code TA-E1, John F. Kennedy Space Center, NASA, Kennedy Space Center, Florida 32899.

(d) Other: NONE.

(End of clause)

NFS 1852.237-73 RELEASE OF SENSITIVE INFORMATION. (JUN 2005)

(a) As used in this clause, "Sensitive information" refers to information, not currently in the public domain, that the Contractor has developed at private expense, that may embody trade secrets or commercial or financial information, and that may be sensitive or privileged.

(b) In accomplishing management activities and administrative functions, NASA relies heavily on the support of various service providers. To support NASA activities and functions, these service providers, as well as their subcontractors and their individual employees, may need access to sensitive information submitted by the Contractor under this contract. By submitting this proposal or performing this contract, the Contractor agrees that NASA may release to its service providers, their subcontractors, and their individual employees, sensitive information submitted during the course of this procurement, subject to the enumerated protections mandated by the clause at 1852.237-72, Access to Sensitive Information.

(c) (1) The Contractor shall identify any sensitive information submitted in support of this proposal or in performing this contract. For purposes of identifying sensitive information, the Contractor may, in addition to any other notice or legend otherwise required, use a notice similar to the following:

Mark the title page with the following legend:

This proposal or document includes sensitive information that NASA shall not disclose outside the Agency and its service providers that support management activities and administrative functions. To gain access to this sensitive information, a service provider's contract must contain the clause at NFS 1852.237-72, Access to Sensitive Information. Consistent with this clause, the service provider shall not duplicate, use, or disclose the information in whole or in part for any purpose other than to perform the services specified in its contract. This restriction does not limit the Government's right to use this information if it is obtained from another source without restriction. The information subject to this restriction is contained in pages that will *be coordinated with the COTR*. Mark each page of sensitive information the Contractor wishes to restrict with the following legend:

Use or disclosure of sensitive information contained on this page is subject to the restriction on the title page of this proposal or document.

(2) The Contracting Officer shall evaluate the facts supporting any claim that particular information is "sensitive." This evaluation shall consider the time and resources necessary to protect the information in accordance with the detailed safeguards mandated by the clause at 1852.237-72, Access to Sensitive Information. However, unless the Contracting Officer decides, with the advice of Center counsel, that reasonable grounds exist to challenge the Contractor's claim that particular information is sensitive, NASA and its service providers and their employees shall comply with all of the safeguards contained in paragraph (d) of this clause.

(d) To receive access to sensitive information needed to assist NASA in accomplishing management activities and administrative functions, the service provider must be operating under a contract that contains the clause at 1852.237-72, Access to Sensitive Information. This clause obligates the service provider to do the following:

(1) Comply with all specified procedures and obligations, including the Organizational Conflicts of Interest Avoidance Plan, which the contract has incorporated as a compliance document.

(2) Utilize any sensitive information coming into its possession only for the purpose of performing the services specified in its contract.

(3) Safeguard sensitive information coming into its possession from unauthorized use and disclosure.

(4) Allow access to sensitive information only to those employees that need it to perform services under its contract.
(5) Preclude access and disclosure of sensitive information to persons and entities outside of the service provider's organization.

(6) Train employees who may require access to sensitive information about their obligations to utilize it only to perform the services specified in its contract and to safeguard it from unauthorized use and disclosure.

(7) Obtain a written affirmation from each employee that he/she has received and will comply with training on the authorized uses and mandatory protections of sensitive information needed in performing this contract.

(8) Administer a monitoring process to ensure that employees comply with all reasonable security procedures, report any breaches to the Contracting Officer, and implement any necessary corrective actions.

(e) When the service provider will have primary responsibility for operating an information technology system for NASA that contains sensitive information, the service provider's contract shall include the clause at 1852.204-76, Security Requirements for Unclassified Information Technology Resources. The Security Requirements clause requires the service provider to implement an Information Technology Security Plan to protect information processed, stored, or transmitted from unauthorized access, alteration, disclosure, or use. Service provider personnel requiring privileged access or limited privileged access to these information technology systems are subject to screening using the standard National Agency Check (NAC) forms appropriate to the level of risk for adverse impact to NASA missions. The Contracting Officer may allow the service provider to conduct its own screening, provided the service provider employs substantially equivalent screening procedures.

(f) This clause does not affect NASA's responsibilities under the Freedom of Information Act.

(g) The Contractor shall insert this clause, including this paragraph (g), suitably modified to reflect the relationship of the parties, in all subcontracts that may require the furnishing of sensitive information.

(End of clause)

NFS 1852.243-70 ENGINEERING CHANGE PROPOSALS. (OCT 2001)

(a) Definitions.

"ECP" means an Engineering Change Proposal (ECP) which is a proposed engineering change and the

documentation by which the change is described, justified, and submitted to the procuring activity for approval or disapproval.

(b) Either party to the contract may originate ECPs. Implementation of an approved ECP may occur by either a supplemental agreement or, if appropriate, as a written change order to the contract.

(c) Any ECP submitted to the Contracting Officer shall include a "not-to-exceed" Price increase or decrease adjustment amount, if any, and the required Period of performance adjustment, if any, acceptable to the originator of the ECP. If the change is originated within the Government, the Contracting Officer shall obtain a written agreement with the contractor regarding the "not-to-exceed" price and Period of Performance adjustments, if any, prior to issuing an order for implementation of the change.

(d) After submission of a contractor initiated ECP, the contracting officer may require the contractor to submit the following information:

(1) Cost or pricing data in accordance with FAR 15.403-5 if the proposed change meets the criteria for its submission under FAR 15.403-4; or

(2) Information other than cost or pricing data adequate for contracting officer determination of price reasonableness or cost realism. The contracting officer reserves the right to request additional information if that provided by the contractor is considered inadequate for that purpose. If the contractor claims applicability of one of the exceptions to submission of cost or pricing data, it shall cite the exception and provide rationale for its applicability.

(e) If the ECP is initiated by NASA, the contracting officer shall specify the cost information requirements, if any.

(End of clause)

KSC 52.204-96 SECURITY CONTROLS FOR KSC AND CCAFS (APR 2010)

A. Identification of Employees

1. Badging

i. Kennedy Space Center (KSC) badging is mandatory for all Contractor personnel who require access to KSC and National Aeronautics and Space Administration (NASA) facilities located on Cape Canaveral Air Force Station (CCAFS). Badging Requirements are in accordance with KNPR 1600.1, KSC Security Procedural Requirements, located at this public website: http://tdglobal.ksc.nasa.gov/ReferencedDocuments/. Badges must be obtained before personnel may access the work site and the contractor is responsible for submitting complete, accurate, and timely security investigation and badge request information. The government is not liable for any project delays resulting from the contractor’s failure to provide required information or the contractor’s inability to achieve favorable investigative results.

ii. Prior to performance, the contractor shall submit the following information to the Contracting Officer, who will certify and pass the information to the KSC Badging Office.

1. Contract number and location of work site(s);
2. Contract commencement and completion dates;

3. Status as prime or subcontractor; and,
4. Name of the contractor designated security/badging official.
5. A KSC Form 28-1222V2, (KSC Visitor Badge Request) and/or KSC Form 28-889 (KSC Visitor Badge/Multiple) for all employees requiring access to KSC or CCAFS.

Note: This is the minimum paperwork required for issuance of identification badges.
iii. Security forms for employee investigations under this clause (Paragraph 2) shall be submitted by the contractor as soon as possible but in no case more than thirty days from initial badging.

iv. During performance of this contract, issued badges shall be worn by contractor employees and prominently displayed above the waist at all times while on KSC or CCAFS property, unless an exception is granted for safety considerations. Upon termination of an employee, or completion/termination of the contract, the contractor shall immediately return such employee's identification and area permit badge(s) to the KSC Badging Office. NASA identification badges are the property of NASA and the Government reserves the right to invalidate/confiscate such badges at any time.

v. Contractor security/badging officials shall ensure that badges are authorized for official purposes only and in accordance with the requirements of this clause and referenced directives. Abuse or misuse of badging authority may result in a loss of this authority. Employees that fail to comply with NASA regulations may be denied access to KSC.

2. Investigations

i. All persons requiring ongoing access to Federal facilities, to include KSC and CCAFS, are required to complete security forms and submit to a Government investigation. Exceptions may be made for short term visitors (15 days or less). Persons needing access for a period greater than 180 days will require an investigation as described in paragraph 2ii below. Contractors should note that the 180 day period is for an individual's aggregate access across all contracts. If you believe your employee will require ongoing access (current contract and follow on projects) to KSC and/or require unescorted access to facilities under the KSC Area Permit System, you should submit the employee for the investigation described in paragraph A2ii below at the time of initial badging.

ii. All persons requiring ongoing access to NASA installations are required to have a favorably completed National Agency Check with Written Inquiries (NACI). The following forms must be submitted to the Contracting Officer's Technical Representative (COTR), or the COTR's designee:

1. FD Form 258, Fingerprint Card (Electronic submission at KSC Badging Office)
2. Standard Form 85, Questionnaire for Non-Sensitive Positions;
3. Optional Form 306, Declaration for Federal Position Employment; and,
4. Three (3) copies of KSC Form 20-87, Request for Investigation (Signed by COTR or COTR's designee)

B. Badging Restrictions/Categories

4. Access to Areas Requiring a KSC Area Permit. Access to certain areas on KSC and CCAFS requires the contractor to have a KSC Area Permit and contractors may be granted "escorted" or "unescorted" access to these areas in accordance with KNPR 1600.1. Unescorted access requires a favorable determination in accordance with the investigative requirements detailed in paragraph A2ii above as well as the completion of mandated safety training.

i. The NASA Protective Services Office, or its designee, PSSO, will determine whether the person is eligible for unescorted access within 14 business days after the receipt of the properly completed forms.
ii. One or more on-site training classes will be required for admittance to the controlled access areas. The total training will not exceed four hours.

Contractors may schedule any required training for their employees by contacting the COTR or designee. The contractor shall maintain a record of employees receiving the training.

I. 5 KSC ON-SITE FACILITIES AND SERVICES (APR 2005)

(a) UTILITIES

☒ There are no utility services available in the work area. All utilities required for performance of the contract work shall be provided by the Contractor.

(b) FACILITIES

☒ There are no Government restroom facilities available for use by the Contractor's employees at the work site. The Contractor shall provide all sanitary facilities for the needs of Contractor personnel.

I. 6 PERSONAL IDENTITY VERIFICATION CARD ISSUANCE PROCEDURES

The following procedures implement the Federal Information Processing Standards Publication (FIPS PUB) Number 201, Personal Identity Verification (PIV) of Federal Employees and Contractors (Reference FAR Clause 52.204-9, Personal Identity Verification of Contractor Personnel).

FIPS 201 Appendix A graphically displays the following procedure for the issuance of a PIV credential.

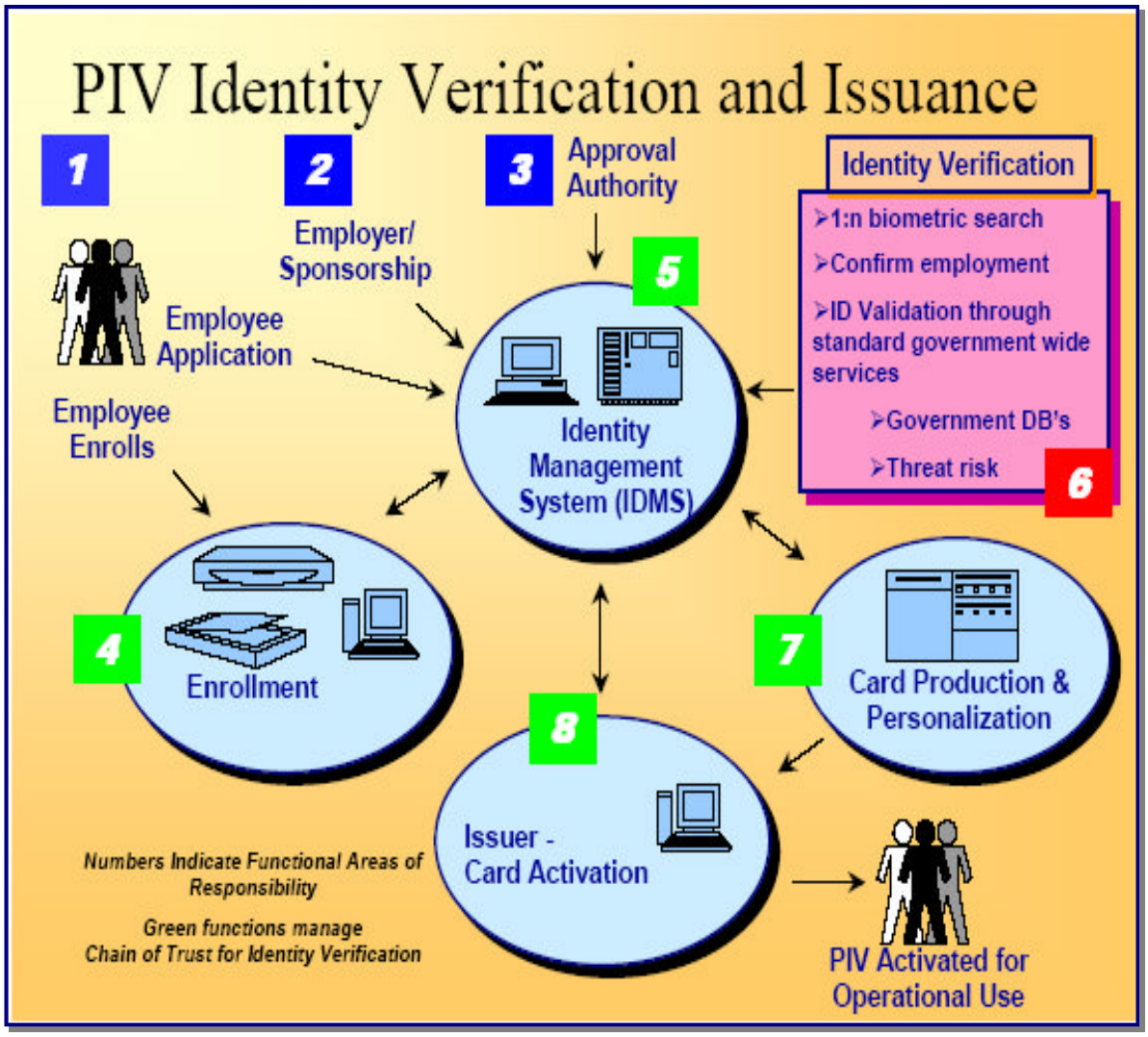

Figure A-1, FIPS 201, Appendix A

The following steps describe the procedures for the NASA Personal Identity Verification Card Issuance (PCI) of a PIV credential:

Step 1:
The Contractor's Corporate Security Officer (CSO), Program Manager (PM), or Facility Security Officer (FSO) submits a formal letter that provides a list of contract employees (applicant) names requesting access to the NASA Contracting Officer's Technical Representative (COTR). In the case of a foreign national applicant, approval through the NASA Foreign National Management System (NFNMS) must be obtained for the visit or assignment before any processing for a PIV credential can take place. Further, if the foreign national is not under a contract where a COTR has been officially designated, the foreign national will provide the information directly to their visit/assignment host, and the host sponsor will fulfill the duties of the COTR mentioned herein. In each case, the letter shall provide notification of the contract or foreign national employee's (hereafter the "applicant") full name (first, middle and last), social security number (SSN) or NASA Foreign National Management System Visitor Number if the foreign national does not have a SSN, and date of birth. If the contract employee has a current satisfactorily completed National Agency Check with Inquiries (NACI) or an equivalent or higher degree of background investigation, the letter shall indicate the type of investigation, the agency completing the investigation, and date the investigation was completed. Also, the letter must specify the risk/sensitivity level associated with the position in which each applicant will be working (NPR 1600.1, §4.5 is germane) Further, the letter shall also acknowledge that contract employees may be denied access to NASA

information or information systems based on an unsatisfactory background investigation/adjudication. .

After reviewing the letter for completeness and concurring with the risk/sensitivity levels, the COTR/host must forward the letter to the Center Chief of Security (CCS). The CCS shall review the OPM databases (e.g., DCII, PIP, et al.), and take appropriate steps to validate the applicant's investigation status. Requirements for a NACI or other investigation shall be initiated only if necessary.

Applicants who do not currently possess the required level of background investigation shall be directed to the e-QIP web site to complete the necessary background investigation forms online. The CCS shall provide to the COTR/host information and instructions on how to access the e-QIP for each contract or foreign national employee requiring access

Step 2:
Upon acceptance of the letter/background information, the applicant will be advised that in order to complete the investigative process, he or she must appear in-person before the authorized PIV registrar and submit two forms of identity source documents in original form. The identity source documents must come from the list of acceptable documents included in Form I-9, Employment Eligibility Verification, one which must be a Federal or State issued picture identification. Fingerprints will be taken at this time. The applicant must appear no later than the entry on duty date.
When the applicant appears, the registrar will electronically scan the submitted documents; any document that appears invalid will be rejected by the registrar. The registrar will capture electronically both a facial image and fingerprints of the applicant. The information submitted by the applicant will be used to create or update the applicant identity record in the Identity Management System (IDMS).

Step 3:
Upon the applicant's completion of the investigative document, the CCS reviews the information, and resolves discrepancies with the applicant as necessary. When the applicant has appeared in person and completed fingerprints, the package is electronically submitted to initiate the NACI. The CCS includes a request for feedback on the NAC portion of the NACI at the time the request is submitted.

Step 4:
Prior to authorizing physical access of a contractor employee to a federally-controlled facility or access to a Federal information system, the CCS will a National Crime Information Center (NCIC) with an Interstate Identification Index check is/has been performed. In the case of a foreign national, a national check of the Bureau of Immigration and Customs Enforcement (BICE) database will be performed for each applicant. If this process yields negative information, the CCS will immediately notify the COTR/host of the determination regarding access made by the CCS.

Step 5:
Upon receipt of the completed NAC, the CCS will update IDMS from the NAC portion of the NACI and indicate the result of the suitability determination. If an unsatisfactory suitability determination is rendered, the COTR will advise the contractor that the employee is being denied physical access to all federally-controlled facilities and Federal information systems.
Based on a favorable NAC and NCIC/III or BICE check, the CCS will authorize the issuance of a PIV federal credential in the Physical Access Control System (PACS) database. The CCS, based on information provided by the COTR/host, will determine what physical access the applicant should be granted once the PIV issues the credential.

Step 6:
Using the information provided by the applicant during his or her in-person appearance, the PIV card production facility creates and instantiates the approved PIV card for the applicant with an activation date commensurate with the applicant's start date.

Step 7:

The applicant proceeds to the credential issuance facility to begin processing for receipt of his/her federal credential.
The applicant provides to the credential issuing operator proof of identity with documentation that meets the requirements of FIPS 201 (DHS Employment Eligibility Verification (Form I-9) documents. These documents must be the same documents submitted for registration.
The credential issuing operator will verify that the facial image, and optionally reference finger print, matches the enrollment data used to produce the card. Upon verification of identity, the operator will locate the employee's record in the PACS database, and modify the record to indicate the PIV card has been issued. The applicant will select a PIN for use with his or her new PIV card. Although root data is inaccessible to the operator, certain fields (hair color, eye color, et al.) may be modified to more accurately record the employee's information.
The applicant proceeds to a kiosk or other workstation to complete activation of the PIV card using the initial PIN entered at card issuance.

ALTERNATIVE FOR APPLICANTS WHO DO NOT HAVE A COMPLETED AND ADJUDICATED NAC AT THE TIME OF ENTRANCE ON DUTY

Steps 1 through 4 shall be accomplished for all applicants in accordance with the process described above. If the applicant is unable to appear in person until the time of entry on duty, or

does not, for any other reason, have a completed and adjudicated NAC portion of the NACI at the time of entrance on duty, the following interim procedures shall apply.

1. If the documents required to submit the NACI have not been completed prior to EOD, the applicant will be instructed to complete all remaining requirements for submission of the investigation request. This includes presentation of I-9 documents and completion of fingerprints, if not already accomplished. If the applicant fails to complete these activities as prescribed in NPR 1600.1 (Chapters 3 & 4), it may be considered as failure to meet the conditions required for physical access to a federally-controlled facility or access to a Federal information system, and result in denial of such access.

2. Based on favorable results of the NCIC, the applicant shall be issued a temporary NASA identification card for a period not-to-exceed six months. If at the end of the six month period the NAC results have not been returned, the agency will at that time make a determination if an additional extension will be granted for the temporary identification card.

3. Upon return of the completed NAC, the process will continue from Step 5.

I. 7 OPTION FOR INCREASED CONSTRUCTION PERFORMANCE

The Government may require the delivery of the numbered line item, identified in the Schedule as an option item at the price stated in the Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within 30 calendar days after contract award.

I. 8 LISTING OF KENNEDY SPACE CENTER REQUIREMENTS SUPPORTING CONTRACT SECTION I

The Kennedy Space Center requirements supporting Contract Section I are listed in Section J, Attachments J-B. Attachment J-B includes those requirements that apply to all work performed under this contract.

SECTION J - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

J.1 LIST OF ATTACHMENTS

The following documents are attached hereto and made a part of this contract.

Attachment	Title	Pages
J.A	Project Deliverables	8
J.B	Specific Requirements.	22
J.C	DOL Wage Determination FL20100017 Dated 04/01/2011	7
J.D	KSC Construction Contractor Safety and Health Practices Procedural Requirements. **KNPR 8715.7** Rev. Basic. November 24, 2009.	55
J.E	KSC Construction Contractor's Safety and Health Practices Users Guide. KSC-UG-2814, Rev: A-1. August 2010. ***This document is provided to assist the Contractor in meeting the requirements in KNPR 8715.7, listed above.***	111
J.F	KSC Drawing 79K38540 Revision A, titled "National Aeronautics and Space Administration John F. Kennedy Space Center PHSF Mechanical Upgrades PCN – 98779.1", dated 2/2011, pages 1 through 27.	27
J.G	Specification 79K38541**,** titled "PHSF Mechanical Upgrades PCN 98779.1)" dated 9/2009, pages 1 through 310.	310
J.H	Contractor's Safety and Health Plan. Reference. NFS 1852.223-73 Safety and Health Plan Alternate I (NOV 2004)(Modified) (to be incorporated when approved by the Contracting Officer).	
J.I	Contractor's Toxic Metals Safety and Health Plan. (to be incorporated when approved by the Contracting Officer).	
J.J	Lifting and Rigging Plan (to be incorporated when approved by the Contracting Officer).	

B. The following listed documents are herein incorporated as part of this contract. They will not be physically included in the contract; however they will retain the same force and effect as if incorporated in full:

(1) Representations, Certifications and Other Statements of Offerors
(2) Instructions, Conditions, and Notices to Offerors

SECTION K - REPRESENTATIONS CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS

K.1 52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (JAN 2011)

(a)

(1) The North American Industry classification System (NAICS) code for this acquisition is 238220.

(2) The small business size standard is $14.0M.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b)

(1) If the clause at 52.204-7, Central Contractor Registration, is included in this solicitation, paragraph (d) of this provision applies.

(2) If the clause at 52.204-7 is not included in this solicitation, and the offeror is currently registered in CCR, and has completed the ORCA electronically, the offeror may choose to use paragraph (d) of this provision instead of completing the corresponding individual representations and certification in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:

[ ] (i) Paragraph (d) applies.

[_] (ii) Paragraph (d) does not apply and the offeror has completed the individual representations and certifications in the solicitation.

(c)

(1) The following representations or certifications in ORCA are applicable to this solicitation as indicated:

(i) 52.203-2, Certificate of Independent Price Determination. This provision applies to solicitations when a firm-fixed-price contract or fixed-price contract with economic price adjustment is contemplated, unless—

(A) The acquisition is to be made under the simplified acquisition procedures in Part 13;

(B) The solicitation is a request for technical proposals under two-step sealed bidding procedures; or

(C) The solicitation is for utility services for which rates are set by law or regulation.

(ii) 52.203-11, Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions. This provision applies to solicitations expected to exceed $150,000.

(iii) 52.204-3, Taxpayer Identification. This provision applies to solicitations that do not include the clause at 52.204-7, Central Contractor Registration.

(iv) 52.204-5, Women-Owned Business (Other Than Small Business). This provision applies to solicitations that—

(A) Are not set aside for small business concerns;

(B) Exceed the simplified acquisition threshold; and

(C) Are for contracts that will be performed in the United States or its outlying areas.

(v) 52.209-5, Certification Regarding Responsibility Matters. This provision applies to solicitations where the contract value is expected to exceed the simplified acquisition threshold.

(vi) 52.214-14, Place of Performance--Sealed Bidding. This provision applies to invitations for bids except those in which the place of performance is specified by the Government.

(vii) 52.215-6, Place of Performance. This provision applies to solicitations unless the place of performance is specified by the Government.

(viii) 52.219-1, Small Business Program Representations (Basic & Alternate I). This provision applies to solicitations when the contract will be performed in the United States or its outlying areas.

(A) The basic provision applies when the solicitations are issued by other than DoD, NASA, and the Coast Guard.

(B) The provision with its Alternate I applies to solicitations issued by DoD, NASA, or the Coast Guard.

(ix) 52.219-2, Equal Low Bids. This provision applies to solicitations when contracting by sealed bidding and the contract will be performed in the United States or its outlying areas.

(x) 52.222-22, Previous Contracts and Compliance Reports. This provision applies to solicitations that include the clause at 52.222-26, Equal Opportunity.

(xi) 52.222-25, Affirmative Action Compliance. This provision applies to solicitations, other than those for construction, when the solicitation includes the clause at 52.222-26, Equal Opportunity.

(xii) 52.222-38, Compliance with Veterans' Employment Reporting Requirements. This provision applies to solicitations when it is anticipated the contract award will exceed the simplified acquisition threshold and the contract is not for acquisition of commercial items.

(xiii) 52.223-1, Biobased Product Certification. This provision applies to solicitations that require the delivery or specify the use of USDA-designated items; or include the clause at 52.223-2, Affirmative Procurement of Biobased Products Under Service and Construction Contracts.

(xiv) 52.223-4, Recovered Material Certification. This provision applies to solicitations that are for, or specify the use of, EPA- designated items.

(xv) 52.225-2, Buy American Act Certificate. This provision applies to solicitations containing the clause at 52.225-1.

(xvi) 52.225-4, Buy American Act--Free Trade Agreements--Israeli Trade Act Certificate. (Basic, Alternate I, and Alternate II) This provision applies to solicitations containing the clause at 52.225- 3.

(A) If the acquisition value is less than $25,000, the basic provision applies.

(B) If the acquisition value is $25,000 or more but is less than $50,000, the provision with its Alternate I applies.

(C) If the acquisition value is $50,000 or more but is less than $67,826, the provision with its Alternate II applies.

(xvii) 52.225-6, Trade Agreements Certificate. This provision applies to solicitations containing the clause at 52.225-5.

(xviii) 52.225-20, Prohibition on Conducting Restricted Business Operations in Sudan--Certification. This provision applies to all solicitations.

(xix) 52.225-25, Prohibition on Engaging in Sanctioned Activities Relating to Iran—Certification. This provision applies to all solicitations.

(xx) 52.226-2, Historically Black College or University and Minority Institution Representation. This provision applies to—

(A) Solicitations for research, studies, supplies, or services of the type normally acquired from higher educational institutions; and

(B) For DoD, NASA, and Coast Guard acquisitions, solicitations that contain the clause at 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns.

(2) The following certifications are applicable as indicated by the Contracting Officer:

[Contracting Officer check as appropriate.]

___ (i) 52.219-22, Small Disadvantaged Business Status.

___ (A) Basic.

___ (B) Alternate I.

___ (ii) 52.222-18, Certification Regarding Knowledge of Child Labor for Listed End Products.

___ (iii) 52.222-48, Exemption from Application of the Service Contract Act to Contracts for Maintenance, Calibration, or Repair of Certain Equipment Certification.

___ (iv) 52.222-52 Exemption from Application of the Service Contract Act to Contracts for Certain Services--Certification.

___ (v) 52.223-9, with its Alternate I, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (Alternate I only).

_X_ (vi) 52.223-13, Certification of Toxic Chemical Release Reporting.

___ (vii) 52.227-6, Royalty Information.

___ (A) Basic.

___ (B) Alternate I.

___ (viii) 52.227-15, Representation of Limited Rights Data and Restricted Computer Software.

(d) The offeror has completed the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at http://orca.bpn.gov .

After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically that apply to this solicitation as indicated in paragraph (c) of this provision have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201); except for the changes identified below *[offeror to insert changes, identifying change by clause number, title, date]*. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR Clause	Title	Date	Change

Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on **ORCA**.

(End of Provision)

SECTION L - INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS

L. 1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FAR 52.252-1) (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at these addresses:

http://www.ksc.nasa.gov/procurement/clause/
http://prod.nais.nasa.gov/cgi-bin/nais/index.cgi
http://ec.msfc.nasa.gov/hq/library/v-reg.htm.

L.2 LISTING OF FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) PROVISIONS INCORPORATED BY REFERENCE AND IN FULL TEXT

PROVISION **TITLE**

52.211-6 **BRAND NAME OR EQUAL (AUG 1999)**

52.215-1 **INSTRUCTIONS TO OFFERORS - COMPETITIVE ACQUISITION (JAN 2004)**

52.215-20 **REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (OCT 2010) ALTERNATE II (OCT 1997) ALTERNATE III (OCT 1997)**
(c) Submit the cost portion of the proposal via the following electronic media: MS Excel or equivalent and submit via *electronic mail (e-mail).*

52.215-22 **LIMITATIONS ON PASS-THROUGH CHARGES--IDENTIFICATION OF SUBCONTRACT EFFORT (OCT 2009)**

52.211-1 **AVAILABILITY OF SPECIFICATIONS LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL I TEMS DESCRIPTIONS, FPMR Part 101-29 (AUG 1998)**

(a) The GSA Index of Federal Specifications, Standards and Commercial Item Descriptions, FPMR Part 101-29, and copies of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained for a fee by submitting a request to—

GSA Federal Supply Service
Specifications Section, Suite 8100
470 East L'Enfant Plaza, SW
Washington, DC 20407

Telephone (202) 619-8925
Facsimile (202) 619-8978.

(b) If the General Services Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by submitting a request to the addressee in paragraph (a) of this provision. Additional copies will be issued for a fee.

52.211-3 AVAILABILITY OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS (JUN 1988)

The specifications cited in this solicitation may be obtained from:

(a) KSC specifications and standards may be obtained through a web site maintained by the KSC Technical Library. These documents may be accessed at:

http://www-lib.ksc.nasa.gov/lib/gp364.html

(b) NASA specifications are available at http://standards.nasa.gov/. This website requires Public Access registration (Logon Required).

(c) The Acquisition Streamlining and Standardization Information System (ASSIST) is a web based system for military and federal specifications and standards. Managed by the DoD Single Stock Point (DoDSSP), Philadelphia, ASSIST-Online provides public access to standardization documents over the Internet. These documents are available at http://assist.daps.dla.mil; or by submitting a request to the-

Department of Defense Single Stock Point (DoDSSP)
Building 4, Section D
700 Robbins Avenue
Philadelphia, PA 19111-5094
Telephone (215) 697-2179
Facsimile (215) 697-1462

(d) Other Government Standards, Specifications, and other Technical Documents incorporated by reference in this solicitation may be obtained from:

John F. Kennedy Space Center, NASA
Specification & Standards Section
Mail Code: LIBRARY-D
Kennedy Space Center, FL 32899
Telephone (321) 867-3603 (Collect calls will not be accepted)

The request should identify the solicitation number and the specification requested by date, title, and number, as cited in the solicitation.

(e) Voluntary standards, such as industrial, manufacturing, independent laboratory, society, and institutional associations (non-Government organizations) codes, standards, specifications, and technical documents incorporated by reference in this solicitation

must be obtained, at the bidder's expense, from the organization that develops, establishes and/or publishes those documents.

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a Firm Fixed Price contract resulting from this solicitation.

(End of provision)

52.222-5 DAVIS BACON ACT-SECONDARY SITE OF THE WORK (JUL 2005)

(a)(1) The offeror shall notify the Government if the offeror intends to perform work at any secondary site of the work, as defined in paragraph (a)(1)(ii) of the FAR clause at 52.222-6, Davis-Bacon Act, of this solicitation.

(2) If the offeror is unsure if a planned work site satisfies the criteria for a secondary site of the work, the offeror shall request a determination from the Contracting Officer.

(b)(1) If the wage determination provided by the Government for work at the primary site of the work is not applicable to the secondary site of the work, the offeror shall request a wage determination from the Contracting Officer.

(2) The due date for receipt of offers will not be extended as a result of an offeror's request for a wage determination for a secondary site of the work.

(End of Provision)

52.225-10 NOTICE OF BUY AMERICAN ACT REQUIREMENT – CONSTRUCTION MATERIALS (FEB 2009)

(a) *Definitions.* "Commercially available off-the-shelf (COTS) item," "construction material," "domestic construction material," and "foreign construction material," as used in this provision, are defined in the clause of this solicitation entitled "Buy American Act--Construction Materials" (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) Requests for determinations of inapplicability. An offeror requesting a determination regarding the inapplicability of the Buy American Act should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) Evaluation of offers.

(1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction

material, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers.

(1) When an offer includes foreign construction material not listed by the Government in this solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror also may submit an alternate offer based on use of equivalent domestic construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of the clause at FAR 52.225-9 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of the clause at FAR 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such domestic construction material. An offer based on use of the foreign construction material for which an exception was requested—

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

ii) May be accepted if revised during negotiations.

52.233-2 SERVICE OF PROTEST (SEP 2006)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the Government Accountability Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from:

Contracting Officer
OP-CS, Room 2488
Headquarters Building,
Kennedy Space Center, Florida 32899

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995) - ALTERNATE I (FEB 1995)

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.

(b) An organized site visit has been scheduled for:

June 02, 2011 at 09:00AM Local Time

All parties will meet at:

KSC Badging Office (take S.R. 405 east from U.S. Highway 1, past the KSC Visitor Complex, located on the right side of the road before KSC Gate 3)

(c) Attendance is limited to three representatives from prospective prime offerors. To attend the site visit, each representative must fill out and return both of the following forms attached to the solicitation:

(1) KSC VISITOR RECORD CENTER VISITOR, BADGE REQUEST KSC FORM 28-889 NS

(2) KSC VISITOR RECORD CENTER VISITOR, TAA REQUEST KSC FORM 28-1223 NS – No. 26

(d) Submit the badging forms, via e-mail, to: Jessica.L.Smith@NASA.GOV

(e) Badging Request Due Date:

May 25,2011 at 4:00 PM Local Time

(f) Badging requests received after the due date will not be considered (your badging request may be rejected for failure to fill in all the required information: names, titles, SSNs, citizenship, etc). U.S. Citizens Only, no Resident Aliens or Foreign Nationals.

(g) Participants will be responsible for:

- Providing their own transportation
- Bringing two (2) forms of identification with them
- Picking up their badges BEFORE THE SITE VISIT at the KSC Badging Office (take S.R. 405 east from U.S. 1, past the KSC Visitor Complex, located on the right before KSC Gate 3). KSC Badging Office hours are Monday through Friday, 6:00A.M. to 4:00P.M. It is recommended you arrive at least 90 minutes prior to the site visit to obtain badging.
- Reporting to the site visit

- Providing a hard hat, closed toed safety shoes and long pants

- Traffic Safety Vest

(h) Visitors on KSC are allowed to possess and use photographic equipment and materials EXCEPT IN CONTROLLED AREAS. At the site visit meeting you will be notified as to the current status of the area.

(i) The site visit is expected to last 3 hours. Prior to the start of the visit you will be advised where to park. The following site, which is typical of the Base Bid and Option work will be visited unless operational or security restrictions prevent access:

Payload Hazardous Servicing Facility, M7-1354, John F. Kennedy Space Center, Florida

L.3 LISTING OF NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) AND KSC PROVISIONS INCORPORATED BY REFERENCE AND IN FULL TEXT

PROVISION NO. TITLE

NFS 1852.228-73 BID BOND (OCT 1998)

NFS 1852.215-81 PROPOSAL PAGE LIMITATIONS (FEB 1998)

(a) The following page limitations are established for each portion of the proposal submitted in response to this solicitation.

Proposal Section	Page Limit
Relevant Experience/Past Performance Proposal – Part I – Relevant Experience/Past Performance Summary	Limited to two (2) pages per each past or current contract identified in the Relevant Experience/Past Performance Summary
Relevant Experience/Past Performance Proposal – Part II – Safety Past Performance	Limited to five (5) pages
Safety and Health Plan	No page limit
Relevant Experience/Past Performance Proposal – Part IV – Optional Supplemental Past Performance Data	Limited to three (3) pages of information for each relevant contract.

(b) A page is defined as one side of a sheet, 8 1/2" x 11", with at least one inch margins on all sides, using not smaller than 12 point type. Foldouts count as an equivalent number of 8 1/2" x 11" pages. The metric standard format most closely approximating the described standard 8 1/2" x 11" size may also be used.

(c) Title pages and tables of contents are excluded from the page counts specified in paragraph (a) of this provision. In addition, the Cost section of your proposal is not page limited. However, this section is to be strictly limited to cost and price information. Information that can be construed as belonging in one of the other sections of the proposal will be so construed and

counted against that section's page limitation.

(d) If final revisions are requested, separate page limitations will be specified in the Government's request for that submission.

(e) Pages submitted in excess of the limitations specified in this provision will not be evaluated by the Government and will be returned to the offeror.

NFS 1852.223-73 Safety and Health Plan (NOV 2004)

The offeror shall, upon request by the Contracting Officer, submit a detailed safety and occupational health plan. The plan shall be submitted within the time specified by the Contracting Officer. Failure to submit an acceptable plan shall make the bidder ineligible for the award of a contract. The plan shall describe in detail the policies, procedures, and techniques that will be used to ensure the safety and occupational health of Contractor employees and to ensure safe working conditions throughout the performance of the contract.

The plan shall describe in detail the policies, procedures, and techniques that will be used to ensure the safety and occupational health of the public, astronauts and pilots, the NASA workforce (including Contractor employees working on NASA contracts). The plan shall also address the protection of the environment, high-valued equipment, and property.

As a minimum, the Safety and Health Plan shall include the following:

1. Safety program objectives to include the Contractor’s corporate safety policy statement.

2. How the Contractor intends to comply with 29 CFR 1926 Safety & Health Regulations for Construction, NPR 8715.3 (NASA Safety Manual & Appendices), KNPR 8715.3 (KSC Safety Practices Procedural Requirements), 8715.7 (KSC Construction Contractor Safety & Health Practices Procedural Requirements [Draft]) with regard to all safety issues that will be encountered on this project.

3. Log of Occupational Injuries and Illnesses: a copy of its annual summary of occupational injuries and illnesses (or equivalent) as described in Title 29, Code of Federal Regulations, Subpart 1904.5. If contractor is exempt by regulation from maintaining and publishing such logs, equivalent data in contractor's format is acceptable (such as loss runs from insurance carrier) which contains the data required. Data shall be compiled and reported by calendar year and the most recent summary shall be provided at the same time as the Safety and Health Plan.

4. Documented evidence of Experience Modification Rate (EMR).

5. Days Away, Restricted or Transferred Rate (DART) (NAICS Code 238910 – Site Preparation Contractors) for the previous three (3) years. The data shall include incidence rates of days away from work, job transfer, or restriction cases, occupational injuries and illnesses, by quartile distribution and employment size group, private industry as most recently published by the Bureau of Labor Statistics.

6. Total Case Incident Rate (TCIR) (NAICS Code 238910 – Site Preparation Contractors) for the previous three (3) years. The data shall include incidence rates of total

recordable cases of occupational injuries and illnesses, by quartile distribution and employment size group, private industry as most recently published by the Bureau of Labor Statistics.

7. Hazard Analysis: The contractor shall describe the process to be used to analyze worksite hazards or Job Hazard Analysis (JHA) prior to the start of work to ensure that all hazards are abated. These analyses may address facilities, systems/subsystems, operations, processes, materials (including waste), and specific tasks or jobs.

8. Emergency Procedures: Procedures for emergency actions to be taken to secure dangerous conditions, to protect personnel, and secure work areas in the event of accident or an act of nature.

9. The Plan shall describe the contractor's training program including identification of responsibility for training employees to assure understanding of safe work practices, hazard recognition, and appropriate responses including protective and/or emergency countermeasures. A discussion on how the contractor will validate that training requirements have been conducted and satisfied (i.e., physical examination, testing, on-the-job performance, etc). The Plan shall state all training materials and training records will be provided for NASA review on request.

10. The plan shall similarly address subcontractor employee safety and occupational health for those subcontractors who will be performing work under the contract when one or more of the following conditions apply: (Note: Contractors may not delegate overall site safety responsibility or authority for any personnel working under the provisions of this section to any subcontractor.)

(i) The work will be conducted completely or partly on premises owned or controlled by the government.

(ii) The work includes construction, alteration, or repair of facilities in excess of the simplified acquisition threshold.

(iii) The work, regardless of place of performance, involves hazards that could endanger the public, astronauts and pilots, the NASA workforce (including Contractor employees working on NASA contracts), or high value equipment or property, and the hazards are not adequately addressed by Occupational Safety and Health Administration (OSHA) or Department of Transportation (DOT) regulations (if applicable).

(iv) When the assessed risk and consequences of a failure to properly manage and control the hazards warrants use of the clause.

This plan, as approved by the Contracting Officer, will be incorporated into the contract.

NFS 1852.233-70 PROTESTS TO NASA. (OCT 2002)

Potential bidders or offerors may submit a protest under 48 CFR Part 33 (FAR Part 33) directly to the Contracting Officer. As an alternative to the Contracting Officer's consideration of a protest, a potential bidder or offeror may submit the protest to the Assistant Administrator for Procurement, who will serve as or designate the official responsible for conducting an independent review. Protests requesting an independent review shall be addressed to Assistant Administrator for Procurement, NASA Code H, Washington, DC 20546-0001.

(End of provision)

NFS 1852.236-74 MAGNITUDE OF REQUIREMENT. (DEC 1988)

The Government estimated price range of this project is between $1,000,000 and $5,000,000.

L.4 KSC 52.214-90 DELIVERY INSTRUCTIONS FOR BIDS/PROPOSALS (AUG 2005)

a. Delivery Address:
All offers (bids or proposals) shall be delivered to the Central Industry Assistance Office (CIAO), 7110 N. Courtenay Parkway, Merritt Island, FL, 32953 on or before the date and time set for receipt of proposals.

Submittals received after the specified closing date will be considered late and will not be evaluated. Access to KSC is not required.

Offerors are responsible for assuring hand carried proposals are either received by NASA Government employees at the CAIO or dropped in the CAIO mail box located outside the building. The outer wrapping of the proposal package shall be clearly marked:

Attn: RICHARD M. JOHANBOEKE,
NASA CONTRACTING OFFICER, OPCS
REQUEST FOR PROPOSAL
SOLICITATION NNK11384684R
PAYLOAD HAZARDOUS SERVICING FACILITY MECHANICAL UPGRADES

b. Hand-Delivered Offers:
Offerors are responsible for assuring that hand-carried bids are either received by NASA Government employees at the CIAO or dropped in the CIAO mail box located outside of the building.

c. Late Delivery of Offers/Bids:
Late offers/bids will be processed in accordance with FAR 52.215-1, “Instructions to Offerors - Competitive Acquisition,” included in this solicitation.

d. Additional Information:
Proposals will not be publicly opened. Per FAR 3.104-4, proposal information shall not be disclosed to any person other than those authorized, in accordance with applicable agency regulations and procedures, by the agency head or the Contracting Officer.

L. 5 COMMUNICATIONS REGARDING THIS SOLICITATION

(a) Questions or comments regarding this solicitation must be submitted via email, cite the solicitation number, and be directed to the following Government representative:

Name: Rich Johanboeke
Email: Richard.M.Johanboeke@NASA.gov
Address: NASA John F. Kennedy Space Center,
Mail Stop: OP-CS

Kennedy Space Center, Florida 32899

(b) Questions should be submitted on the attached Question/Comment Form, in MS Word or equivalent (no PDF or read only) format or in the body of the e-mail message (in the same format as listed on the Question/Comment Form, Appendix 2 to Section L of this solicitation). Send to the Contracting Officer listed by **June 17, 2011 at Noon Local Time** to allow for analysis and dissemination of responses in advance of the proposal due date. Questions received after this date will be considered but may not be answered. Oral questions will not be accepted.

(c) Questions or comments shall not be directed to the technical activity personnel.

L.6 GENERAL PROPOSAL PREPARATION INSTRUCTIONS

The solicitation, drawings package and specifications are available only through the Federal Business Opportunities website, (FEDBIZOPPS) (http://www.fbo.gov). No hard copies, CD's or other media will be provided by the Government. It is the responsibility of the potential offerors to download the documents listed in this solicitation.

(a) The Government intends to make award without holding discussions with offerors. By submitting an offer in response to this solicitation, offerors are agreeing to comply with all terms and conditions contained in the solicitation. Offerors are cautioned to carefully follow the instructions set forth herein.

(b) This solicitation DOES NOT invite offerors to submit alternate proposals. The Contracting Officer may reject any offer containing exceptions. Therefore, offerors are encouraged to include their best terms and conditions in the initial offer. If, despite the warning given in this paragraph, the offeror elects to include exceptions, they must be specifically and clearly identified on a separate page. In this solicitation, the words "offer" and "proposal" are used interchangeably. (See definition of "offer" at FAR 2.101.)

(c) A PROPERLY SUBMITTED OFFER SHALL CONSIST OF THE FOLLOWING:

(1) Three copies of the SF 1442, Solicitation Offer and Award, with Blocks 14 through 20c completed and signed by an authorized representative of the offeror. The person signing the offer must initial each erasure or change appending the offer.

(2) Three copies of page 1 of all amendments issued, signed by an authorized representative of the offeror. (This requirement only applies if amendment receipts are not acknowledged on the signed SF 1442 submitted).

(3) Completion of Section K representations and certifications on-line at the Online Representations and Certifications Application (ORCA) website as required by FAR Provision 52.204-8, Annual Representations and Certifications, incorporated in full text in Section K of this solicitation

(4) Two (2) copies of offeror's Relevant Experience/Past Performance Proposal (See Article L.6) consisting of:

(i) PART I - Relevant Experience/Past Performance Summary in accordance with Article L.7.

(ii) PART II - Safety Past Performance Supplement in accordance with Article L.7.

(iii) PART III – Page 1 of the Past Performance Questionnaire Copies that the offeror provided to each past performance point of contact in accordance with Article L.7. The past performance questionnaire is provided as Appendix 1 to Section L. of this solicitation.

(iv) PART IV – Optional Supplemental Past Performance Data From Prior Customers in accordance with Article L.7.

(5) Two (2) copies of your Safety and Health Plan in accordance with NASA FAR Supplement 1852.223-73.

(6) One (1) properly executed bid bond in accordance with NFS 1852.228-73. A copy of Standard Form 24, Bid Bond, May be downloaded at:

http://www.gsa.gov/Portal/gsa/ep/formslibrary.do?formType=SF

The terms and conditions of the solicitation, including any amendments, shall take precedent over the offeror's proposal unless incorporated into the contract by specific reference.

Incomplete proposals may be a basis for determination of unacceptability of the proposal and removal of the proposal from consideration. The submittals will be evaluated for completeness and compliance with requirements of the Request for Proposal.

L. 7 RELEVANT EXPERIENCE/PAST PERFORMANCE PROPOSAL

(a) The government will evaluate the contractor's relevant experience and past performance on recent efforts similar to the Government's requirement. Your Relevant Experience/Past Performance Proposal shall consist of Parts I, II, III and IV as follows:

Part I –	Relevant Experience/Past Performance Summary
Part II –	Safety Past Performance Supplement
Part III –	Page 1 of the Past Performance Questionnaire Copies
Part IV –	Optional Supplemental Past Performance Data from Prior Customers

(b) Delivery instructions for Parts I-IV shall follow Section L, Clause:

KSC 52.214-90 DELIVERY INSTRUCTIONS FOR BIDS/PROPOSALS (AUG 2005)

PART I - RELEVANT EXPERIENCE/ PAST PERFORMANCE SUMMARY

1. Offerors shall provide a Relevant Experience/ Past Performance Information Summary identifying five past or current relevant contracts (including Federal, State, and local government and private) similar in size, content, and complexity to the instant Government acquisition, with the most relevant contracts listed first.

2. If applicable, offerors shall submit past performance information regarding predecessor companies or subcontractors that will perform major or critical aspects of the requirement when such information is relevant to the instant acquisition. If the offeror proposes using a major subcontractor, the Relevant Experience/ Past Performance Information Summary shall also identify five past and current contracts performed by the major subcontractor that the offeror considers most relevant to the work to be performed by the major subcontractor. The term "Major Subcontractor" is defined as any subcontractor whose effort on this acquisition is projected to be more than 35% of the contract value.

3. The Relevant Experience/Past Performance Summary is specifically limited to no more than FIVE past and current contracts for the offeror and no more than FIVE past and current contracts for each of its major subcontractors and predecessor companies, if any.

4. Offerors with no recent and/or relevant past performance information to submit on projects it has itself performed (as an entity), shall submit past performance data on past and current contracts that proposed contractor key personnel have participated in, if key personnel have participated in such projects. Information on these projects is limited to five past and current contracts and shall be provided as described below. The Relevant Experience/Past Performance Summary shall identify the names of the individuals and their roles in the specific projects.

5. Offerors are advised that while the list of submitted contracts are at the offerors' discretion, the Government may consider and evaluate any other past performance data obtained from other sources and use the obtained information in the evaluation and rating of the offerors past performance. The Relevant Experience/Past Performance Summary shall be limited to two pages of information for each past and current contract and include the following information for each referenced contract or project:

   (i) Name of project and contract/order number

   (ii) Type of contract/order (fixed-price or cost reimbursable)

   (iii) Dates of contract performance

   (iv) Place of contract performance

   (v) Name and address of customer or Government Agency

   (vii) Name, telephone number and e-mail address of Contracting Officer or equivalent customer contact

   (viii) Percentage and dollar value of contract work that was performed by the offeror

   (ix) Dollar value of contract/order as initially awarded

   (x) Current value of contract/order or, for completed tasks, the value at

contract/order completion

(xi) A brief discussion on why the selected contract is considered recent and relevant.

(xii) A discussion on the management approach and organizational structure employed on the project to include, but not limited to the names of key prime and subcontractor management personnel and their roles, responsibilities, and authority (key personnel are defined as project managers, quality control managers, safety managers, and site superintendents).

(xiii) Discussions on problems encountered (if applicable) during contract performance to include, but not limited to, challenges to successfully completing the project on schedule; safety violations/discrepancies; Department of Labor violations/discrepancies; non-payment of employees, subcontractors, and/or suppliers; and terminations. Offerors shall also discuss the offeror's corrective actions taken by the offeror relative to the identified problems.

(xiv) A discussion on contract requirements concerning subcontracting plan goals for small disadvantaged business concerns, monetary targets for small disadvantaged business participation anD substitution of small disadvantaged firm notifications. (Applicable only to offerors who are large businesses)

PART II – SAFETY PAST PERFORMANCE SUPPLEMENT

An evaluation on each offerors' overall safety and health past performance will be performed. To facilitate this evaluation, offerors shall provide a standalone document titled Safety Past Performance Supplement and shall include documentation demonstrating:

1. Maintaining acceptable Days Away Restricted or Transferred (DART), Total Case Incident Rate (TCIR), and Experience Modification Rating (EMR) rates for the previous three years.

2. Maintaining a safety and health program with visible management control and involvement.

3. Maintaining a safety program ensuring subcontractors' safety performances was consistent with the prime contractor's safety program.

4. Ability to analyze worksite hazards prior to the start of work to ensure that all hazards were abated.

5. Maintaining a safety program with emergency procedures for securing dangerous conditions and protecting personnel during contract performance.

6. Ability to understand and comply with safety requirements.

7. Maintaining a safety program that ensured the customer's critical resources were adequately protected.

8. Ability to resolve safety discrepancies in a timely and effective manner

9. Ability to report, investigate and take corrective actions on safety accidents/incidents in a timely and effective manner

PART III – PAST PERFORMANCE QUESTIONNAIRE COPIES

(1) Part III of the offerors Relevant Experience/Past Performance Proposal shall consist of copies of the first page of each past performance questionnaire that the offeror has sent to each customer contact identified in its Relevant Experience/ Past Performance Summary. NOTE: The offeror is required to complete the "THIS SECTION TO BE COMPLETED BY THE OFFEROR" area prior to sending the questionnaire to its customers.

(2) Offerors shall provide the Past Performance Questionnaire (Appendix 1 to Section L of this solicitation) to each past performance Contracting Officer or customer contact equivalent identified in its Relevant Experience/ Past Performance Summary. Offerors shall request those customers to submit the completed questionnaires to the below address by e-mail. Questionnaires should be returned directly from the offeror's past performance source to the Contract Specialist listed below:

Name:	Rich Johanboeke
Email:	Richard.M.Johanboeke@NASA.gov
Address:	NASA John F. Kennedy Space Center, Mail Stop: OP-CS Kennedy Space Center, Florida 32899

Offerors are responsible for assuring completed past performance questionnaire(s) are submitted by their reference sources directly to the Contracting Officer prior to response time of **June 03, 2011 at Noon Local Time**. *Past Performance Questionnaires will not be accepted directly from offerors.*

PART IV - OPTIONAL SUPPLEMENTAL PAST PERFORMANCE DATA FROM PRIOR CUSTOMERS

Offerors may provide supplemental statements, letters, reports or evaluations from prior customers indicating the level and quality of past performance on the contracts/projects listed in the Relevant Experience/Past Performance Summary. This supplemental information shall not exceed three (3) pages of information for each contract/project reference in your Relevant Experience/Past Performance Summary.

L. 8 CONTRACTOR RESPONSIBILITY

The assessment of past performance information is separate from the FAR Subpart 9.1 responsibility determination the contracting officer will make prior to award of a contract under this solicitation.

L. 9 APPENDICES TO SECTION L

This Section L is supplemented with the following appendices:APPENDIX 1 – Past Performance Questionnaire & APPENDIX 2 – Question & Comment Form

APPENDIX 1

PAST PERFORMANCE QUESTIONNAIRE SOLICITATION NNK11384684R
Payload Hazardous Servicing Facility at the John F. Kennedy Space Center, Florida

NASA Kennedy Space Center's solicitations requires offerors to provide this Past Performance Questionnaire to past and current customers to complete and return to NASA. Past performance raters are requested to submit the completed questionnaires to the contracting officer identified below via e-mail, to arrive not later than the proposal submission date. NASA will not accept the PAST PERFORMANCE QUESTIONNAIRE from offerors after the time and date listed in Section L.7.

Completed questionnaires should be sent to:

Name: Rich Johanboeke
Email: Richard.M.Johanboeke@NASA.gov
Address: NASA John F. Kennedy Space Center
Mail Stop: OP-CS
Kennedy Space Center, Florida 32899

Raters are requested to complete the questionnaire forms as written since altered or substituted questionnaires may not adequately address the information NASA will be evaluating.

SECTION I. THIS SECTION TO BE COMPLETED BY THE OFFEROR

Name of Contractor Being Evaluated: _____

Name of Project and Contract/Order Number: _____

Period of Contract Performance (dates): _____

Place of Contract Performance: _____

Contract Value at Award: _____

Contract Value at Completion or Current Contract Amount: _____

Contract Status (Prime or Subcontract?): _____

Point of Contact: (Rater) Name/Address/Office Phone Number/E-Mail Address:

_____
_____
_____
_____
_____

THIS SECTION TO BE COMPLETED BY THE RATER

(THIS QUESTIONNAIRE, WHEN COMPLETED, SHALL NOT BE DISCLOSED TO ANYONE OUTSIDE THE GOVERNMENT**)**

Name of Contractor Being Evaluated: _____

Name of Project and Contract/Order Number: _____

Period of Contract Performance (dates): _____

Place of Contract Performance: _____

Contract Value at Award: _____

Contract Value at Completion or Current Contract Amount: _____

Contractor's Status (Prime or Subcontractor?): _____

Percentage and Dollar Value of Work Performed by the Contractor:
_____

Dates of Rater's Involvement in Program/Contract: _____

Brief Description of Work Performed:
_____
_____
_____
_____
_____
_____
_____

Point of Contact: (Rater) Name/Address/Office Phone Number/E-Mail Address:
_____
_____
_____
_____
_____

PLEASE RATE THE FOLLOWING:

On a scale of 1 to 5, with 1 being unsatisfactory and 5 being exceptional, please rate the contractor on the past performance areas included in this questionnaire. A rating of N/A should be used if the question is not applicable or the answer is unknown. Space is provided for any additional comments raters may want to provide. The definitions associated with the 1 to 5 ratings are provided below:

1. **UNSATISFACTORY:** Performance does (did) not meet most contractual requirements and recovery is not likely (did not occur). The contractual performance contains (contained) serious problem(s) for which the contractor's corrective actions appear ineffective (were ineffective).

2. **MARGINAL:** Performance does (did) not meet some contractual requirements. The contractual performance reflects (reflected) serious problem(s) for which the contractor has not yet identified acceptable corrective actions (did not provide acceptable corrective actions).

3. **SATISFACTORY:** Performance meets (met) contractual requirements. The contractual performance reflects (reflected) some minor problems. Corrective actions being taken by the contractor appear to be effective (Corrective actions taken were effective).

4. **VERY GOOD:** Performance meets (met) contractual requirements and exceeds (exceeded) some of the Government's expectations. The contractual performance reflects (reflected) some minor problems and corrective actions being taken by the contractor appear to be effective (Corrective actions taken were effective).

5. **EXCEPTIONAL:** Performance meets (met) contractual requirements and exceeds (exceeded) many of the Government's expectations. The contractual performance reflects (reflected) few minor problems and corrective actions taken by the contractor appear to be highly effective (corrective actions taken were effective).

   N/A: Not applicable or rater has not observed performance in this area.

CONTRACT ADMINISTRATION

1. The contractor's ability to provide prompt payment of employees, subcontractors, and suppliers for services and supplies performed/delivered under the contract.

1	2	3	4	5	NA

2. The contractor's compliance with Davis-Bacon Act and other labor requirements and resolution of reported violations/discrepancies.

1	2	3	4	5	NA

3. Has the contractor's performance required the issuance of any cure notices, show cause letters, or terminations for cause/default? (Please circle Yes or No)

Yes	No				

4. Would you select this contractor again? (Please circle Yes or No)

Yes	No				

Contract Administration Comments: _____

_____

_____

_____

SAFETY PERFORMANCE

5. Maintaining a safety and health program with visible management control and involvement.

1	2	3	4	5	NA

6. Maintaining a safety program ensuring subcontractors' safety performances was consistent with the prime contractor's safety program.

1	2	3	4	5	NA

7. Ability to analyze worksite hazards prior to the start of work to ensure that all hazards were abated.

1	2	3	4	5	NA

8. Ability to understand and comply with safety requirements.

1	2	3	4	5	NA

9. Maintaining a safety program that ensured the customer's critical resources were adequately protected with emergency procedures for securing dangerous conditions and protecting personnel during contract performance.

1	2	3	4	5	NA

10. Ability to resolve safety discrepancies in a timely and effective manner and the ability to report, investigate, and take corrective actions on safety accidents/incidents in a timely and effective manner

1	2	3	4	5	NA

Safety Comments:

PERFORMANCE

11. The effectiveness of the Contractor's overall project management ability (including but not limited to project managers, quality control managers, safety managers, and superintendents); labor (skilled and unskilled workers); equipment; supplies; tools; and financial resources to successfully perform, provide contract deliverables and complete work in a safe and timely manner.

1	2	3	4	5	NA

Comments:

12. The Contractor's ability to provide immediate and effective contractor management attention at the job site and partner with the owner to resolve technical problems and schedule problems.

1	2	3	4	5	NA

Comments:

13. The Contractor's ability to provide quality engineering shop drawings and accurate and complete as-built documentation.

1	2	3	4	5	NA

Comments:

14. The Contractor's ability to create ISO class 8 (100k) clean room or more stringent cleanliness plans and ability to effectively execute these plans on air handling units and associated equipment (ducts, devices, etc.) during delivery, installation, and start-up activities.

1	2	3	4	5	NA

Comments:

15. The Contractor's ability to safely and successfully implement modifications in areas remaining operational during the construction process.

1	2	3	4	5	NA

Comments:

END

APPENDIX 2

QUESTION/COMMENT FORM SOLICITATION NNK11384684R
Payload Hazardous Servicing Facility at the John F. Kennedy Space Center, Florida

Questions or comments regarding this solicitation must be submitted via email to the Contracting Officer identified below.

Name:	Rich Johanboeke
Email:	Richard.M.Johanboeke@NASA.gov
Address:	NASA John F. Kennedy Space Center, Mail Stop: OP-CS Kennedy Space Center, Florida 32899

Questions shall be submitted in MS Word or equivilent (no PDF or read only formats) or in the body of the e-mail message. Late questions or comments will be considered by the Government but may not be answered. Offerors are cautioned that technical activity personnel are not authorized to answer solicitation questions or comments and that any responses from them may not accurately represent the Government's official position. The responses will be issued by amendment. NASA will not accept the QUESTION/COMMENT FORM received after the time & date listed in Section L.5.

PLEASE CITE THE REFERENCE NUMBER SUCH AS PAGE NUMBER OF THE RFP, SPEC, DWGS, ETC, IF APPLICABLE.

1. REFERENCE:
_____

QUESTION:
_____
_____

2. REFERENCE:
_____

QUESTION:
_____
_____

Submitted by (name):_____
Company: _____
E-mail Address: _____

SECTION M - EVALUATION FACTORS FOR AWARD

M.1 BASIS FOR CONTRACT AWARD

(a) Discussions

In accordance with the Instructions to Offerors – Competitive Acquisition provision of this solicitation (FAR 52.215-1), the Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a).) Therefore, the offeror's initial proposal should contain the offeror's best terms. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary. Only one award will be made as a result of this solicitation. Award will be made to the offeror who is deemed to be responsible in accordance with the Federal Acquisition Regulation (FAR), whose proposal conforms to the solicitation requirements and whose proposal offers the best value.

(b) Evaluation Factors and Selection of the Successful Offeror

(1) The Contracting Officer will utilize a Price Performance Trade-Off (PPTO) technique to make a best value award decision. Evaluation and selection for contract award will be based on two factors: (i) Price and (ii) Relevant Experience and Past Performance (REPP). For purposes of selection, REPP will be considered approximately equal to price but may be traded off, one against the other, to select the proposal representing the overall best value to the Government.

(2) In assessing past performance, the Government will assess the information provided in offerors' relevant experience/past performance volumes and the completed past performance questionnaires submitted by the offerors' Contracting Officers or customer contact equivalents identified in its Relevant Experience/ Past Performance Information Summary. The Government shall consider this information, as well as information obtained from other sources (to include interviews with previous customers), when evaluating offerors' relevant experience/past performance. The recency and relevance of the information, source of the information, context of the data, and general trends in contractor's performance shall be considered. The evaluation shall take into account past performance information regarding predecessor companies, key personnel who have relevant experience, and/or subcontractors who will perform major or critical aspects of the requirement when such information is relevant to this acquisition. The Government will not disclose the names of persons/companies who provide performance information. If, during the course of the evaluation, the Government obtains adverse information to which the offeror has not previously had an opportunity to respond, the Government will afford the offeror an opportunity to clarify the adverse information. This assessment of past performance information is separate from the contractor responsibility determination required under FAR Subpart 9.1.

(c) The following describes the general methodology that will be used for proposal evaluation:

(1) General Review:

Offerors will be checked against the List of Parties Excluded From Federal Procurement and Non-procurement Programs. Offerors who appear on the List will be eliminated without further consideration. Proposals will also be checked for minor informalities or irregularities. The Contracting Officer will follow guidance at FAR 15.306 for resolving minor informalities or irregularities.

(2) Price Evaluation:

(a) Offered Price Review:

Prices will be checked for minor or clerical errors. If necessary, offerors may be afforded an opportunity to resolve any such errors. Any exchange with offerors under this subparagraph shall be for the purpose of clarification (FAR 15.306(a)) and shall not constitute negotiations as defined at FAR 15.306(d). In the event of discrepancy between a unit price and the extended amount, the unit price shall be controlling.

Prices will be reviewed for apparent mistakes. Should this review reveal any prices that give the Contracting Officer reason to suspect a mistake in the offeror's pricing, the Contracting Officer will contact the offeror pursuant to FAR 15.306(b) and afford the offeror an opportunity to confirm its price or acknowledge the existence of a mistake. Any exchanges conducted under this paragraph will be pursuant to FAR 15.306(b)(3) and will not provide the offeror an opportunity to revise its' proposal.

After resolution of minor clerical errors and/or mistakes, prices will be reviewed for reasonableness and evaluated in accordance with FAR 15.404-1(b). The proposed prices will be evaluated by comparison against the Government estimate and prices submitted by other offerors.

(b) Evaluated Price:

FAR 52.217-3, "Evaluation Exclusive of Options (APR 1984)", applies to this solicitation. The Government will evaluate offers for award purposes by including only the price for the basic requirement; i.e., options will not be included in the evaluation for award purposes.

(3) Relevant Experience and Past Performance (REPP) Evaluation:

(i) The Government will evaluate the contractors' relevant experience and past performance on recent efforts similar to the Government's requirements.

A. RECENCY: An assessment of the past performance information will be made to determine if it is recent. For purposes of this source selection, recent past performance is defined as contracts performed **within five (5) years** of the date of the issuance of this solicitation.

B. RELEVANCY: A relevancy determination of the offeror's present and past performance, including joint venture partners and/or major subcontractors will be made. In determining relevancy, consideration will be given to the effort, or portion of the effort being proposed by the offeror, joint venture partner, or subcontractor being reviewed and evaluated. The Government is not bound by the offeror's opinion of relevancy. The Present/Past Performance Information provided by the offerors and data obtained from other sources will be considered in establishing the relevance of present and past efforts. The offeror's Relevant Experience will be assessed based upon the similarity of the offeror's past and/or current work to the work to be accomplished under this contract.

Relevancy is defined as the offeror's past or current experience in performing and managing commercial and/or Government electrical utility construction contracts/projects. Projects of a dollar magnitude approximately equal to or greater than this project will be considered more relevant than projects of a dollar magnitude less than this project.

Relevancy is further defined as:

- Experience in preparing detailed and accurate computer generated shop drawing and as-built documentation (both hardware and software).

- Experience in installing large air handling units (> 10,000 CFM) and preparing ISO class 8 or more stringent cleanliness plans for air handling units of any size and related equipment/devices directly supporting clean rooms.

- Experience in selective demolition of large mechanical equipment, control system instrumentation, and structural members.

As deemed necessary, the Government shall confirm past and present performance data identified by offerors in their proposals. The Government may consider as relevant efforts performed for other agencies of the federal, state or local governments and commercial customers.

(ii) The government will evaluate the offeror's past performance in:

A. The contractor's ability to provide prompt payment of employees, subcontractors, and suppliers for services and supplies performed/delivered under the contract.

B. The contractor's compliance with Davis-Bacon Act and other labor requirements and resolution of reported violations/discrepancies.

C. The contractor's compliance with contract subcontracting plan goals for small disadvantaged business concerns (see FAR 19.7), monetary targets for SDB participation(see FAR 19.1202), and notifications submitted under FAR 19.1202-4(b) **(Applicable only to offerors who are large businesses).**

D. The effectiveness of the contractor's overall project management ability (including but not limited to project managers, quality control managers, safety managers, and superintendents); labor (skilled and unskilled workers); vehicles; equipment; supplies; tools; and financial resources to successfully

perform, provide contract deliverables and complete demolition work in a safe and timely manner

E. The contractor's ability to provide immediate and effective contractor management attention at the job site for resolution of contract problems.

F. The Contractor's ability to provide quality engineering shop drawings and accurate and complete as-built documentation.

G. The Contractor's ability to create ISO class 8 (100k) or more stringent cleanliness plans and ability to effective execute these plans on air handling units and associated equipment (ducts, devices, etc.) during delivery, installation, and start-up activities.

H. The Contractor's ability to safely and successfully implement modifications in areas remaining operational during the construction process.

(iii) The government will evaluate the offeror's safety past performance in:

A. Maintaining acceptable Days Away Restricted or Transferred (DART), Total Case Incident Rate (TCIR), OSHA 300 Log and Experience Modification Rating (EMR) rates for the previous three years.

B. Maintaining a safety and health program with visible management control and involvement.

C. Maintaining a safety program ensuring subcontractors' safety performances was consistent with the prime contractor's safety program.

D. Ability to analyze worksite hazards prior to the start of work to ensure that all hazards were abated.

E. Maintaining a safety program with emergency procedures for securing dangerous conditions and protecting personnel during contract performance.

F. Ability to understand and comply with safety requirements.

G. Maintaining a safety program that ensured the customer's critical resources were adequately protected.

H. Ability to resolve safety discrepancies in a timely and effective manner

I. Ability to report, investigate, and take corrective actions on safety accidents/incidents in a timely and effective manner

(iv) Performance Confidence Assessment Rating:

The offeror's evaluated relevant experience and past performance will be

reviewed and an assessment made that reflects the Government's judgment of the probability of each offeror successfully accomplishing the proposed effort based on that offeror's demonstrated performance. Each offeror will then be assigned one of the Performance Confidence Assessment Ratings shown below. These Performance Confidence Assessment Ratings represent the Government's judgment of the probability of an offeror successfully accomplishing the proposed effort based on that offeror's demonstrated performance.

- **Very High Level of Confidence**

  The Offeor's relevant past performance is of exceptional merit and is very highly pertinent to this acquisition; indicating exemplary performance in a timely, efficient, and economical manner; very minor (if any) problems with no adverse effect on overall performance. Based on the Offeror's performance record, there is a very high level of confidence that the Offeror will successfully perform the required effort. ** (One or more significant strengths exist. No significant weaknesses exist.)

- **High Level of Confidence**

  The Offeror's relevant past performance is highly pertinent to this acquisition; demonstrating very effective performance that would be fully responsive to contract requirements with contract requirements accomplished in a timely, efficient, and economical manner for the most part with only minor problems with little identifiable effect on overall performance. Based on the Offeror's performance record, there is a high level of confidence that the Offeror will successfully perform the required effort. ** (One or more significant strengths exist. Strengths outbalance any weakness.)

- **Moderate Level of Confidence**

  The Offeror's relevant past performance is pertinent to this acquisition, and it demonstrates effective performance; fully responsive to contract requirements; reportable problems, but with little identifiable effect on overall performance. Based on the Offeror's performance record, there is a moderate level of confidence that the Offeror will successfully perform the required effort. ** (There may be strengths or weaknesses, or both.)

- **Low Level of Confidence**

  The Offeror's relevant past performance is at least somewhat pertinent to this acquisition, and it meets or slightly exceeds minimum acceptable standards; adequate results; reportable problems with identifiable, but not substantial, effects on overall performance. Based on the Offeror's performance record, there is a low level of confidence that the Offeror will successfully perform the required

effort. Changes to the Offeror's existing processes may be necessary in order to achieve contract requirements. ** (One or more weaknesses exist. Weaknesses outbalance strengths.)

- **Very Low Level of Confidence**

  The Offeror's relevant past performance does not meet minimum acceptable standards in one or more areas; remedial action required in one or more areas; problems in one or more areas which, adversely affect overall performance. Based on the Offeror's performance record, there is a very low level of confidence that the Offeror will successfully perform the required effort. ** (One or more deficiencies or significant weaknesses exist.)

- **Neutral**

  In the case of an Offeror without a record of relevant past performance or for whom information on past performance is not available, the Offeror may not be evaluated favorably or unfavorably on past performance [see FAR 15.305(a) (2) (ii) and (iv)].

(v) Source Selection

The application of the PPTO technique to determine contract award and for use in the selection process for the determination of a proposal which offers the best value to the Government is as follows:

A. All offers will be ranked by evaluated price in accordance with FAR 15.404-1.

B. All offerors will receive a performance confidence assessment rating of very high level of confidence, high level of confidence, moderate level of confidence, low level of confidence, very low level of confidence, or neutral.

C. If the offeror with the lowest evaluated price has received a performance confidence assessment rating of very high level of confidence, that offeror's proposal shall automatically be deemed to represent the best value for this acquisition, and award shall be made to that offeror, subject to a positive responsibility determination in accordance with FAR Part 9.

D. If the offeror with the lowest evaluated price has received a performance confidence assessment rating of high level of confidence and there are no proposals with a performance confidence assessment rating of high level of confidence, that offeror's proposal shall automatically be deemed to represent the best value for this acquisition, and award shall be made to that offeror, subject to a positive responsibility determination in accordance with FAR Part 9.

E. If the offeror with the lowest evaluated price receives a performance confidence assessment rating lower than any other offeror, the Government will perform the PPTO analysis and select the proposal representing the overall best value

M.2 SOURCE SELECTION DECISION

Selection for contract award will be made based on a best value trade-off between Price and Relevant Experience and Past Performance with Relevant Experience and Past Performance being approximately equal to Price. The Contracting Officer, exercising prudent business judgment, will make the source selection decision based on the proposal representing the overall best value to the Government. The selection will be made subject to an affirmative determination of contractor responsibility in accordance with FAR Subpart 9.1.

ATTACHMENT J-1/J-A – INCIDENTAL DELIVERABLES

Incidental deliverables (manuals, reports, plans, and other written documentation) to be provided under this contract are identified in this Attachment J-1/J-A. Nothing contained in this Attachment J-1/J-A shall relieve the Contractor from furnishing data called for by, or under the authority of, other provisions of this contract, which are not identified and described in this Attachment J-1/J-A. The cost of data to be furnished in response to Attachment J-1/J-A is included in the firm-fixed price of the contract.

THE DELIVERABLES IDENTIFIED IN THE ARTICLES BELOW ARE APPLICABLE TO THIS CONTRACT

J-A-1 SUBMITTALS

a. At the Pre-work Conference, the Contractor shall provide, for approval by the Contracting Officer, the following schedules of submittals:

(1) A schedule of all shop drawings and technical submittals required by the specifications and drawings. The schedule will indicate the specification or drawing reference requiring the submittal; the material, item or process for which the submittal is required; the "SD" number and identifying title of the submittal; the Contractor's anticipated submission date and the approval need date.
(2) A separate schedule of all other submittals required under the contract but not listed in the specifications or drawings. The schedule will indicate the contract requirement reference; the type or title of the submittal; the Contractor's anticipated submission date and the approval need date (if approval is required).

b. All submittals called for by the contract documents will be listed on one of the above schedules. If a submittal is called for but does not pertain to the contract work, the Contractor will include it in the applicable schedule and annotate it "N/A" with a brief explanation. Approval of the schedules by the Contracting Officer does not relieve the Contractor of supplying submittals required by the contract documents but which have been omitted from the schedules or marked

"N/A".

c. Copies of both schedules will be re-submitted monthly annotated by the Contractor with actual submission and approval dates. When all items on a schedule have

J-A-2 SHOP DRAWINGS

Pursuant to FAR clause 52.236-21 entitled "Specifications and Drawings for Construction"; the Contractor shall submit Shop Drawings as detailed below. For purposes of this clause, the term “Shop Drawings” shall be construed to include all “Submittal Descriptions” (Type SD-01, SD-02, SD-03, etc., as required by project technical specifications) that are necessary to fully describe contractor supplied materials and installation methods and demonstrate their compliance with the technical and performance requirements of the contract. Submittal Descriptions include drawings,

design data, catalog cuts, descriptive literature, illustrations, schedules, performance and test data, and similar materials to be furnished by the contractor. The preparation and distribution requirements described herein apply to all such SD submittals except as noted in technical specifications or otherwise directed by the Contracting Officer.

(a) For Shop Drawing submittals relating to Fire Safety systems, transmit twelve (12) complete sets as follows: transmit four (4) sets to the Contracting Officer and transmit the remaining eight (8) sets to the Architect/Engineer (A/E) whose name and address shall be provided at the Pre-work Conference.

(b) For all other Shop Drawing submittals, transmit ten (10) sets as follows: transmit two (2) sets to the Contracting Officer and transmit the remaining eight (8) sets to the Architect/Engineer (A/E) whose name and address shall be provided at the Pre-work Conference.

(c) The Shop Drawing submittals shall be transmitted to the Contracting Officer and the A/E on the same day. Delivery to the A/E shall be by the equivalent of “next day” delivery service. The timestamp recorded by the Contracting Officer upon receipt from the Contractor shall be the record date.

(d) Four (4) sets shop drawings will be returned to the Contractor. These sets will be returned to the Contractor within 21 calendar days of the record date with appropriate review and approval notations as described below.

On or before completion date of the contract, the Contractor shall submit to the Contracting Officer two complete sets of shop drawings, which incorporate all comments, annotations, conditions of approval and corrections. Both drawing sets are to be made from the same original

(e) The shop drawings shall be complete and detailed and shall contain all information required for checking without reference to material contained in other shop drawing transmittals. Partial submittals will not be accepted unless specifically approved by the Contracting Officer. Any partial submittals shall be so indicated and any outstanding submittal required to complete the package shall be identified.

(f) Shop drawings shall be submitted in a logical sequence that is duly coordinated with long lead-time procurements and with fabrication and construction schedules. Each set of shop drawings shall be accompanied by a completed KSC shop drawing submittal form listing the specification or drawing reference requiring the shop drawing; the material, item or process for which the shop drawing is required and the "SD" number and identifying title of the shop drawing. The Shop Drawing form will be supplied by the Government.

(g) Shop drawings for certain systems (e.g. fire detection/suppression) must be submitted as soon as 30 days following contractor’s Notice to Proceed, and associated as built drawings, software, programs and test procedures must be submitted up to 30 days prior to acceptance testing. See Shop Drawing and submittal references in project technical specifications for affected submittals and

their respective deadlines.

(h) "Drawings" as opposed to "Shop Drawings" shall mean actual drawings, diagrams, layouts and schematics. "Drawings" fall under the more general term "Shop Drawings" which include other required materials.

(1) Drawings shall be uniform in size, nominally 24 by 36 inches, with a maximum size of 28 by 40 inches. All drawings shall have dark lines on a white background.

(2) Drawings shall be numbered in logical sequence. The Contractor may use his own numbering system. Each drawing shall bear the number of the submittal (e.g. First Submittal, Second Submittal, etc.) in a uniform location adjacent to the title block. The NASA contract number shall appear in the margin, immediately below the title block, for each drawing.

(3) A blank space, no smaller than 4 by 5 inches shall be reserved on the right hand half of each sheet for the Government disposition stamp.

(i) Review and approval notation will be as follows:
Whenever the Contractor's shop drawings contain any changes or deviations from the technical requirements of the applicable contract drawings, maps and specifications, they shall be clearly identified on the shop drawing concerned. All shop drawings containing deviations must be accompanied by a Request for Deviation submitted in accordance with the provision (in Section I) entitled "Deviations and Waivers". Any Deviation request addressing Contractor's inability to comply with 'Buy American Act' provisions must be accompanied by a 'Request for Determination of Inapplicability of the Buy American Act'. Failure to note a deviation on a submitted shop drawing that is subsequently returned as "approved" or "approved as noted" will not constitute approval of the deviation.

(1) Shop drawings marked "approved" authorize the Contractor to proceed with work covered by such drawings.

(2) Shop drawings marked "approved as noted" authorize the Contractor to proceed with the work covered provided he takes no exception to the corrections. The notes shall be incorporated on the shop drawings prior to submission of the final shop drawings.

(3) Shop drawings marked "returned for correction" require the Contractor to make the necessary corrections and revisions on the drawings and re-submit them for approval

in the same routine as before, prior to proceedings with any of the work depicted on the drawings.

(4) Shop drawings marked "not approved" or "disapproved" indicate noncompliance with the contract requirements and the shop drawings shall be re-submitted with appropriate changes. No item of work requiring a shop

drawing shall be accomplished until the drawings are approved or approved as noted.

(5) The Contractor shall make any corrections required by the Contracting Officer. If the Contractor considers any correction or notation indicated on the returned shop drawings to constitute a change to the contract drawings or specifications; notice as required under the clause entitled "Changes" shall be given to the Contracting Officer.

(6) The Government's engineering review of Contractor's shop drawing submittal(s) is for general conformance with the design concept of the project and the information given in the contract documents. As such, approval of the shop drawings by the Contracting Officer shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is satisfactory. The Contractor is solely responsible for the dimensions and design of adequate connection details; confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating the work with that of other trades and performing the work in a safe and satisfactory manner, and certifying that proposed products meet all technical specifications and all contractual provisions, especially those relating to the 'Buy American Act'. Corrections or comments made as part of the Government review do not relieve the Contractor from compliance with the requirements of the contract documents. Likewise, any approval of a Shop Drawing Submittal containing an unidentified deviation from the technical requirements of the applicable contract drawings, maps and specifications, shall not relieve the contractor from compliance with the technical requirements.

(j) If changes are necessary to approved shop drawings whether as a result of a contract change or for any other reasons, the Contractor shall make such revisions and resubmit the shop drawings in accordance with the procedures in paragraphs a. through c. above. No item of work requiring a shop drawings change shall be accomplished until the changed shop drawings are approved.

(k) Progress payments will not be made on materials and equipment that have been delivered to the job site but not approved on shop drawings.

J-A-3 RECORD DRAWINGS

(a) After completion of all construction and before final payment is made, the Contractor shall submit one complete set of full size blue line contract drawings with fully dimensioned changes shown in red pencil to the Contracting Officer.

(b) The Contractor shall verify all dimensions and Geographical Information System (GIS) data shown on the contract drawings. Civil discipline systems, such as site dimensions and elevations, underground utilities, manholes, access points, paving, etc. and systems requiring state certifications, such as stormwater systems, shall require verification by a registered Land Surveyor. As-built dimensions and GIS data shall be at the same level of detail as the contract drawings.

(c) All dimensional changes shall be reflected as corrected dimensions by striking through the dimension value with a single line and circling this change. A leader shall point from the actual, as-built dimension to the circled change. All utility routing and interface changes shall be reflected on the drawings to scale and defined with sufficient dimensions to be able to locate. Indicating by reference alone, for example to a change order number, will not be acceptable.

(d) These record drawings shall be maintained by the Contractor at the work site and shall be updated based on job progress to reflect all changes and deviations and actual routing of all field-routed utilities and services. All lines, letters, and details shall be sharp, clear, and fully legible. All additions to the drawings shall be precisely drawn to scale of the original drawing and their locations shall be dimensioned.

(e) Final Systems Drawings For Wiring/Devices/Control Systems:

(1) Final system drawings for wiring and control systems shall be prepared and submitted as described below, and in accordance with additional requirements as described in technical specifications.

(2) Record drawings shall be made available for Government review on a monthly basis at the job site. This monthly review of record drawings will be part of the monthly monetary progress review.

(3) Drawings for installation of wiring, devices and/or controls that require field routing must be red- lined, reproduced, verified for accuracy, and submitted for approval per the requirements set forth under the section entitled Shop Drawings herein a minimum of two weeks before requesting a final walkdown of the following systems. These drawings shall be labeled “FINAL SHOP DRAWINGS”. In addition to hardcopy reproductions, the final drawings submittals shall include electronic files in Intergraph or Microstation format or in a Computer Aided Design (CAD) format compatible with Intergraph or Microstation.

(4) Final Systems Drawings are required for:

(i) HVAC

(ii) Paging/Area Warning

(iii) Premise Wiring

(iv) Electrical control schematics and connection diagrams

(v) Elevators

(vi) Fire detection/suppression systems

(vii) Any other system involving wiring and controls, with the exception of facility lighting

(f) Sewer System Certification:

For all work involving sewer system installations or modifications, the Contractor shall provide to the Contracting Officer three (3) sets of drawings in the form of an As-Built Survey signed and sealed by a State of Florida Registered Land Surveyor for the sewer system. The as-built survey shall show all locations and invert elevations of the sewer system to verify that its placement is per contract drawings. The submittal shall be complete and sufficient for the Engineer's of Record certification to the Florida Department of Environmental Protection. The as-built survey level of detail shall be the same as shown in the contract drawings. If significant differences exist between the contract requirements and as-built conditions as evidenced by the survey, the differences shall be corrected and a new as-built survey made and submitted as before. Drawings shall be provided prior to the final inspection.

(g) Record drawings shall be made available for Government review on a monthly basis at the job site. This monthly review of record drawings will be part of the monthly monetary progress review.

J-A-4 MISCELLANEOUS DOCUMENTATION

(a) Documentation submitted under this clause shall not be submitted as shop drawings.

(b) The Contractor shall submit an original and one copy of all correspondence, delivery tickets, soil compaction reports, contractor daily reports, concrete test reports, and welding certifications or other worker qualification certifications, to the Contracting Officer.

(c) The Contractor shall submit an original and four copies of all other documentation (excepting shop drawings) pertaining to this contract, including asbestos abatement plans, to the Contracting Officer.

(d) In the event of a conflict within this contract, the provisions of this requirement shall take precedence over any other contractual requirement pertaining to the number of copies to be submitted except for shop drawings which shall be submitted in accordance with Item J-A-2, Shop Drawings, set forth under this Attachment J-A.

J-A-5 PROGRESS SCHEDULES

Pursuant to FAR 52.236-15, entitled "Schedules for Construction Contracts," the Contractor shall:

(a) Prepare the Progress Schedule using standard commercially available scheduling software or comparable format such as a bar chart approved by the Contracting Officer.

(b) Submit the Progress Schedule, for approval by the Contracting Officer, at the Pre-Work Conference in four (4) copies. Include a copy of the electronic file if Progress

Schedule is prepared using scheduling software. The approved initial progress schedule will be the baseline schedule for the project.

(c) Include no less than the following information on the Progress Schedule:

(1) Major headings for primary project scope broken out in accordance with the Divisions and/or Sections of the project specifications.

(2) Line item break-downs under each major heading sufficient to track the progress of the work.

(3) A line item showing contract finalization tasks which includes Punch List, Clean-up and Demobilization, and Final Construction Drawings.

(4) Appropriate level of detail under each line item or activity (compatible with the schedule of values) sufficient to track the cost and schedule performance, including scheduled vs. actual percentage complete for any given day within the contract performance period. (Progress schedules prepared using scheduling software shall include resource loaded activities [labor, material, and other resources), major deliveries, project milestones, etc.]. Bar Charts shall include, as a minimum, a materials bar and a separate labor bar for each line item.) Each element shall include the estimated cost and percentage weight of total contract cost. The labor element shall also show the number of workers expected to be working on any given date within the Contract Performance Period.

For projects involving the installation or modification of Fire Alarm systems, include at a minimum the following line items on the schedule of values:

a. Fire Alarm Rough-In Material
b. Fire Alarm Rough-In Labor
c. Fire Alarm Trim Material
d. Fire Alarm Trim Labor
e. Fire Alarm Preliminary Testing
f. Fire Alarm Final Testing

For projects involving the installation or modification of Building Controls (i.e. HVAC, Lighting, etc…) systems, include at a minimum the following line items on the schedule of values:

a. Controls Rough-In Material
b. Controls Rough-In Labor
c. Controls Trim Material
d. Controls Trim Labor
e. Controls Testing

(5) Separate line items for Mobilization and Shop Drawing submittal and approval (these items are to show no associated costs).

(6) The progress schedule or bar chart shall indicate the file date and status date (data date).

(d) Update the progress schedule every 30 calendar days (unless specified otherwise)* throughout the Contract Performance Period. All work that has not been completed in accordance with the previously approved schedule shall be rescheduled to reflect actual or planned progress based on the current status date. Submit four copies (and electronic file as applicable) to the Contracting Officer for approval. Progress schedule updates shall be submitted concurrently with progress payment requests.

J-A-6 SCHEDULING

The Contractor will be required to provide detailed scheduling information regarding planned operations to the Contracting Officer's designated representative for input to the LC 39 Industrial area 72 hour/11-day operations schedule (a total of 14 days). This schedule input must be provided on a daily basis prior to 1:00 P.M. The schedule must show the Contractor's planned operations in detail for the next 3 days in hourly increments and in shift increments for the following 11 days. All Contractor operations requiring support from KSC, such as outages or fire and safety standby, for hazardous operations, shall be identified.

J-A-7 LIFTING PLAN AND RIGGING PLAN

A detailed Lifting and Rigging Plan shall be submitted by the Contractor 14 days prior to lifting operations. Lifting operations include work performed within requires the use of cranes or lifting equipment to include chokers, slings, and shackles used to move material, personnel, and equipment to/from heights in excess of 25 feet. One lifting and rigging plan may be submitted for multiple lifts using the same equipment by utilizing the most stringent applicable conditions. Four (4) copies of a detailed Lifting and Rigging Plan shall be submitted for approval to the Contracting Office using the enclosed form. The lifting plan shall address:

1. The specific crane(s) lifting and rigging equipment that will be on site
2. The maximum swing radius to be used and the degrees in relation to the crane, such as 360 degrees over the counterweight, tec.
3. A sketch of where the crane will be located in relation to where the loads will be situated.
4. The estimated maximum load weights
5. The type and weight of rigging to be used and how it will be configured
6. A copy of the crane capacity chart to be used.
7. A copy of all crane deductions.
8. Maximum crane boom to be used.
9. Counterweight configurations.
10. Certifications of the crane, operator, and rigging.
11. Certifications of rigging personnel.
12. General narrative description of lift operations, plan of approach, and safety measures to be implemented during the lifting operations.

J-A-8 TOXIC METALS SAFETY AND HEALTH PLAN

The use of paints containing heavy metals and PCB has been commonplace at the Kennedy Space Center. The Contractor shall assume that all existing painted surfaces encountered in the performance of work contain heavy metals and PCB when developing the Toxic Metals Safety and Health Plan and performing work. The Contractor may, at his discretion, test any painted surfaces, in accordance with appropriate regulatory standards, to determine the absence of heavy metals and PCB in the paint.

In addition to and separate from the Safety and Health Plan required under this solicitation/contract, the Contractor shall submit a detailed Toxic Metals Safety and Health Plan. The Toxic Metals Safety and Health Plan shall disclose how the Contractor intends to protect NASA and contractor employees as well as the environment from toxic metals during the ongoing activities of this contract. The contractor shall submit a minimum of five (5) copies of the Toxic Metals Safety and Health Plan for review and approval by the Contracting Officer. The Contracting Officer will forward one copy each to TA-B1 for review.

The Toxic Metals Safety and Health Plan shall provide a description of the Contractor's approach to contain and control dusts, fumes and other airborne or waterborne emissions from the work site for the protection of other personnel at the work location and the environment. This part of the plan shall also discuss monitoring activities during the work in progress to assure the effectiveness of the Contractor's emission control measures.

The Toxic Metals Safety and Health Plan shall also provide written policies, plans, and procedures detailing how the contractor intends to comply with the Occupational Safety and Health Administration (OSHA) Construction Industry Standards (29 CFR 1926) and applicable General Industry Standards (29 CFR 1910). As a minimum, the Toxic Metals Safety and Health Plan shall address how compliance with the following regulations will be achieved:

19 CFR, Part 1926, Safety and Health Regulations for Construction
Subpart D, Occupational Safety & Health Environmental Controls
1926.55, Gases, Vapors, Fumes, Mists, and Dusts
1926.59, Hazard Communication
1926.62, Lead
1926.1127, Cadmium
Subpart E, Personal Protective and Life Saving Equipment
1926.103, Respiratory Protection
1926.353, Ventilation and Protection in welding cutting, and heating
1926.154, Welding, cutting, and heating in way of preservative coatings.
KHB 1840.1 (Latest Edition), KSC Industrial Hygiene Handbook, as applicable
KHB 1820.4 (Latest Edition), KSC Respiratory Protection Program, as applicable

The regulations require strict contractor adherence but are not limited to items such as employee training, respiratory protection, protective clothing and equipment, employee medical surveillance, hygiene facilities, warning signs, record keeping, air monitoring, and housekeeping.

ATTACHMENT J-1/J-B – SPECIFIC REQUIREMENTS

The Kennedy Space Center requirements supporting Contract Section I that are applicable to all work performed under this contract are identified in this Attachment J-1/J-B. Nothing contained in this Attachment J-1/J-B shall relieve the Contractor from complying with other requirements of this contract, which are not identified and described in this Attachment J-1/J-B.

J-B-1 UTILITY OUTAGE, ENERGIZED ELECTRICAL WORK, ELECTRICAL HAZARD ANALYSIS, AND EXCAVATION PERMITS

(a) Utility Outage Requests and Electrical Work Permits

(1) Utility Outage Requests: All outages required during the prosecution of work which affect utility systems, such as electrical, water, fire detection and protection systems and air handling systems will require permits. Work shall be scheduled to hold outages to a minimum. Request for utility outage permits shall be made in writing to the Contracting Officer at least fourteen (14) working days in advance of the time required. The request shall state the system involved, area involved, approximate time of outage, and the nature of the work involved. The fact that the Contractor requests an outage for a specific time period does not necessarily mean that the outage will take place. Due to the nature of the operations at Kennedy Space Center, the Contractor probably will not know until the day before the requested date if the outage will take place as scheduled. All outages will take place outside regular working hours. The Contractor will not be entitled to additional payment for working irregular hours due to outages.

(2) Electrical Work Permits: Prior to beginning work on an electrical system under an approved outage, the Contractor shall obtain an executed Work Permit (form number KSC-26-400NS) from the Base Support contractor, and then execute complex lockout/tag-out procedures for all Work Permit related work as follows:

a. The Contractor's employee in charge of the required lockout/tag-out shall be present at the time the Government switches high-, medium-, or low-voltage circuits under Government access control which are to be locked and tagged out by the Contractor. The Contractor shall coordinate with the COTR for the required switching period time and date. Due to KSC operational considerations the switching period time and date may be at any time, and outside of normal working hours or work days.

b. Once Government switching is complete the Contractor's employee in charge of the lockout/tag-out shall sign the Work Permit and immediately install the required OSHA compliant lockout / tag-out on the required switching device(s). Once installed the Contractor's employee in charge of the lockout/tag-out shall individually note the locations of the locks and tags on the Work Permit form.

c. A lockout/tag-out lock box shall be used for all such lockout / tag-outs. The key(s) from the lock(s) installed by the Contractor's employee in charge of the lockout/tag-out shall be placed in the box and the employee in charge shall place an additional personal lock on the lock box to secure the keys inside. Lock box

shall be kept at the work site and all other Contractor employees shall attach their personal lockout/tag-out on this box at any time they are working on the applicable equipment.

d. At the start of the first standard work period following the lockout/tag-out of a Government switched circuit for which a Work Permit is issued, the Contractor's employee in charge of the lockout/tag-out shall complete the required lockout/tag-out (lock box) procedures. Immediately upon completing the lockout/tag-out the Contractor shall verify no voltage is present on all circuit conductors using suitable testing equipment, safe work practices, and all required personal protective equipment. All other circuit safeguards such as grounding shall occur immediately after the voltage test and each safeguard shall be individually recorded on the Work Permit.

(b) Energized Electrical Work and Hazard Analysis

(1) Live parts to which an employee might be exposed shall be put into an electrically safe work condition before an employee works on or near them, unless the employer can demonstrate that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. If live parts are not placed in an electrically safe work condition (i.e., due to increased or additional hazards or infeasibility), work to be performed shall be considered energized electrical work. Safety plans, job hazard analysis, and work practices for work on or in proximity to energized parts shall be in accordance with KNPR 8715.7, KSC Construction Contractor Safety and Health Practices Procedural Requirements

(2) Electrical Hazard Analysis:

Arc-flash and shock prevention personal protective equipment (PPE) is required for all energized electrical, work and where energized or exposed live parts may not be present, but a potential hazard exists including: manhole or cable vault/tray insulated cable inspections, circuit breaker or switch operation, and de-energized voltage checks to electrically safe equipment.

The Contractor shall provide a qualified electrical safety professional to perform an arc-flash and shock hazard analysis in accordance with NFPA 70E for all such electrical work. The analysis shall be submitted with the Contractor's Site Specific Safety Plan (SSSP) and referenced in any applicable Job Hazard Analysis (JHA). The safety professional shall perform and review a power system analysis using computer software specifically designed for the purpose to determine short circuit levels and arc flash hazard incident energy at all locations to be worked on by the Contractor. Table 130.7(C)(9) in NFPA 70E may be used in lieu of calculations when all applicable general notes for the table apply. The Government will provide source short circuit levels and clearing times for Government operated electrical source equipment as well as any applicable design information. The analysis shall include a table summarizing the results of the analysis with the following information for each location or piece of equipment:

i.) Protective Device Name

ii.) Protective Device Clearing Time
iii.) Maximum Voltage
iv.) Calculated Bolted Three Phase Fault Level.
v.) Calculated Bolted Ground Fault Level
vi.) Calculated Minimum Arcing Fault Level
vii.) Arc-Distance if applicable for the calculation.
viii.) Employee Working Distance
ix.) Calculated Arc-Flash Boundary
x.) Calculated Maximum Arc-Flash Incident Energy.
xi.) Arc-Flash PPE Category
xii.) Shock Prevention PPE Insulating Class
xiii.) Limited Approach Boundary
xiv.) Restricted Approach Boundary
xv.) Prohibited Approach Boundary

(3) Electrical Manhole / Vault Confined Space Requirements: Reference KNPR 8715.7, KSC Construction Contractor Safety and Health Practices Procedural Requirements. During the site specific safety plan submittal phase, the Contractor shall complete a hazard evaluation of confined space(s) ensuring all hazards associated with the space or that may be introduced to the space have been identified and mitigated. The Contractor's designated safety professional shall coordinate with the COTR to complete a confined space hazard assessment (KSC Form 28-750NS) in accordance with KNPR 1840.19 for each confined space, and to schedule a job-site inspection meeting with KSC Environmental Health and Safety personnel. Within 35 calendar days after this meeting the COTR will provide a confined space hazard assessment to the Contractor. This assessment must be complete prior to any manhole entry and will be used in generating the confined space entry permit(s) required for the project.

a. The contractor shall provide supplementary lighting for all manhole work.

(c) Excavation Permits

The Contractor shall request and obtain excavation permit(s) prior to performing any excavation. KSC Form 26-312V3 NS, Utility Locate/Excavation Permit Request, shall be prepared by the Contractor and submitted to the Government for approval at least 15 working days prior to the planned excavation date. The Contractor shall comply with the requirements of the Base Support Contractor's "Utility Locate / Excavation Permit Instruction" ENG-I-MP07 (latest revision), in the preparation, submission and use of the permit(s).

J-B-2 FIRE PROTECTION AND REQUIRED PERMITS

The KSC Fire Department will provide fire suppression, inspection and rescue services to the Contractor as necessary. The Contractor shall:

(a) Provide approved fire extinguishers of appropriate type for hazards involved.

(b) Report all fires to the Fire Service at 867-7911 or 867-1911.

(c) Comply with all requirements of KHB 1710.2C Section 504 (Heat Producing Devices) and NSS 1740.11 “NASA Safety Standard for Fire Protection” Section 702 and Chapter 8 for work performed at the Kennedy Space Center.

(d) Provide a fire watch in accordance with Federal OSHA Safety and Health Standards 29 CFR 1926.352/1910.252 when required by the welding and burning permitting official.

(e) Prevent false fire alarms by providing 24-hour advance notice to the Contracting Officer's Technical Representative (COTR) when construction activities in areas protected by fire alarm and/or detection systems may produce airborne particulates (smoke or dust) caused by construction activities such as painting, stripping, cutting drywall or concrete, sandblasting, and/or removing raised floor panels.

(f) Request permits for all welding and burning operations. Requests for these permits shall be made in writing to the Government at least seven (7) working days in advance of the time required.

(g) Report in the Contractor’s Safety and Health Plan in accordance with NFS 1852.223-73 how it intends to comply with the above requirements.

J-B-3 PERMANENTLY INSTALLED SAFETY SYSTEMS

(a) The Contractor shall protect and in no way interrupt the service of any installed safety systems or personnel safety devices.

(b) In the event that the Contractor requires entrance into systems serving safety devices,
the Contractor shall obtain prior approval from the Contracting Officer. In the event the Contractor determines that it is necessary to temporarily remove or render inoperable any personnel safety devices in order to accomplish contract requirements, the Contractor shall provide alternate means of protection prior to removing or rendering inoperable any permanently installed safety devices or equipment and shall obtain prior approval of the Contracting Officer.

J-B-4 BREATHING AIR COMPATIBILITY

(a) The contractor shall take precautions to assure that connectors used in contractor-supplied breathing air systems are incompatible with connectors present on either KSC gas systems or on contractor supplied systems that are used to supply non-respirable gases. KSC-STD-Z0008, ‘Standard for Design of Ground Life Support Systems and Equipment’, establishes requirements for connectors to be used in KSC facility breathing air and non-respirable gas systems. Facility breathing air systems located at KSC/CCAFS are to use a Hansen 3/8 inch quick disconnect as a breathing air distribution interface. KSC facility non-respirable gas systems are to use ¼ inch quick disconnects for gas distribution interfaces. Although most facility systems were designed in accordance with this standard, there are nonconforming

locations at KSC/CCAFS.

(b) The Contractor may use KSC facility breathing air systems, if available at the work location. The contractor shall perform a pre-work site inspection to identify coupling types in use at the work location before mobilizing or using any breathing air equipment. The contractor shall also submit a written certification to show the contractor's breathing air system has been recently inspected and meets Grade D breathing air standards. Alternately, the contractor may arrange for on-site testing of contractor-supplied breathing air by the Government at least five days prior to start of work. In addition, the contractor shall also provide a work site evaluation for the NASA Safety Office to review before using any breathing air system. The breathing air test and the safety inspection can be coordinated through the Contracting Officer, and will be at no cost to the contractor.

(c) The contractor shall tag or label connector ends of all lines and flexible hoses of contractor-provided breathing air or non-respirable gas distribution systems. The tags or labels will clearly identify the contents of the lines or hoses.

(d) The contractor shall provide a description of the steps taken to comply with the requirements of this clause in their safety plan submittal.

J-B-5 TRAFFIC RESTRICTIONS

(a) The Contractor will not move oversized loads and/or slow moving vehicles on established roads within the Kennedy Space Center from 6:30 A.M. to 8:30 A.M. and 3:30 P.M. to 5:30 P.M. on week days. Other than the above restricted hours, the Contractor may move oversize and/or slow moving vehicles to the work site provided all requirements of the Florida State Highway Department have been met.

(b) Movement of any Contractor vehicle in excess of maximum width, height and length specified by Florida Statues Chapter 316 shall be accompanied by the Contractor's designated Convoy Commander. The Contractor's Convoy Commander shall be totally responsible for the oversized vehicular movement to include making a physical inspection for possible obstructions along the intended route and obtaining all required special permits.

J-B-6 STORAGE AND PROTECTION OF MATERIAL TO BE RE-USED

All items of material to be removed and re-installed by the Contractor shall be protected during removal and stored in a manner such that the material will not be damaged during removal or storage. Any material designated for re-use, which is not suitable due to the Contractor's damage, will be replaced by the Contractor at no additional cost to the Government.

J-B-7 MAINTENANCE OF GOVERNMENT EQUIPMENT

(a) Government systems and equipment in the Contractor's work area may require servicing, maintenance, or modification by Government support contractors during the contract performance period. This maintenance activity may include work on systems, including underground utilities, that connect with Contractor installed systems and equipment. The Contractor shall allow the Government support

contractors into his work area to perform the maintenance work.

(b) Existing systems and equipment require periodic maintenance that cannot be readily defined in terms of frequency and duration. This maintenance will be coordinated with the Contractor through the Contracting Officer, and will be performed on a non-interference basis as much as possible. The Contractor shall notify the Contracting Officer regarding any uncoordinated maintenance activity.

(c) The Contractor shall arrange and conduct a joint pre-operations briefing with Government support contractor personnel on each occasion that the support contractor requires access to the contractor's work area. The Contractor shall take the following steps as required to prevent collateral damage to, or interference with, Contractor installed systems and equipment.

(1) Verify the scope and limits of the support contractor's planned maintenance activity.

(2) Advise the support contractor regarding the scope of the Contractor's work that may be affected by the maintenance activity, including specific locations and dimensions of planned or installed facilities, systems and equipment. Notify the Contracting Officer immediately regarding any resulting conflicts or interferences.

(3) Ensure that temporary barriers or protective measures are provided as needed to protect Contractor installed work and preserve job-site safety.

The Contractor shall notify the Contracting Officer immediately regarding any issues that cannot be resolved with the support contractor.

J-B-8 AVIATION OBSTRUCTION LIGHTS

The Contractor will provide at least two Aviation Red Obstruction Lights or two High Intensity White Obstruction Lights on all structures over 100 feet above ground level. All construction cranes/booms shall be lighted regardless of height. Lights must be constructed and installed in accordance with U.S. Department of Transportation, Federal Aviation Administration publication AC 70/7460-1F (as revised), Chapter 4, paragraph 15, subparagraph e. Lights will be operated during all periods of reduced visibility, between sunset and sunrise, and as directed by the Contracting Officer.

J-B-9 INTERFERENCES AND COORDINATION OF WORK

(a) The Contractor shall coordinate construction layout, systems configuration and work scheduling to avoid interference's between the various construction trades and their installations. Interferences and obstructions resulting from lack of Contractor coordination shall be corrected by the Contractor as approved by the Contracting Officer. All components, fittings and reworking necessary for such corrections shall be provided by the Contractor at no additional cost to the government. Dimensions shown for existing work, and all dimensions required for work that is to connect to existing work, shall be verified by the Contractor by actual field measurement of the existing work. Any work at variance with that specified or shown in the drawings

shall not be performed by the Contractor until approved in writing by the Contracting Officer.

(b) To the extent possible, the as-built dimensions of all new work shall be verified by actual field measurement prior to ordering or fabricating mechanical, electrical, or specialty equipment and materials to be installed. If such field measurement is not possible, then the contract drawings and applicable shop drawings shall be checked by the contractor for dimensional accuracy prior to ordering or fabricating equipment and materials to ensure proper fit for field installation.

(c) The Contractor shall be responsible for correction of all field fitup problems and interferences which could have been avoided by field measurement or drawing checks prior to equipment fabrication.

J-B-10 RESTORATION OF GRASSED AREAS DISTURBED BY CONSTRUCTION

The Contractor shall, prior to completion of the contract, grass all areas disturbed by construction activities by seeding and mulching or, when erosion may occur, by sodding, except where specifically directed otherwise in the drawings and specifications.

J-B-11 TEMPORARY CONSTRUCTION TRAILERS

(a) The Government will provide a location for temporary office and/or storage facilities if needed for performance of on-site work under this contract. Specific location(s) at or reasonably close to the work site will be identified at the pre-work conference. The contractor is responsible for providing his own telephone service and for making his own connections to KSC utility services, if provided for under Article I.5.

(b) All temporary facilities must be structurally sound, in roadworthy condition, and shall be installed and anchored in accordance with KSC-PLN-1904, Trailer/Equipment Tie Down Plan for the John F. Kennedy Space Center; or Rules of Department of Highway Safety and Motor Vehicles, Division of Motor Vehicles Chapter 15C-1, whichever is more stringent. Copies of the standards will be made available to the contractor at the pre-work conference. The contractor shall provide written certification of compliance for all temporary facilities to the Contracting Officer within three days of installation. Any facilities that fail to meet these requirements shall be immediately removed from Government property.

(c) All temporary facilities shall be removed from government property within two weeks following final acceptance of work performed under this contract.

J-B-12 CONFINED SPACE WORK REQUIREMENTS

(a) Special requirements, coordination, and precautions will apply to any contract work taking place in confined spaces. Each contractor contracted to perform work in confined spaces is required to provide a written program for such work as part of its health and safety plan which is consistent with the requirements of 29 CFR 1910.146. For work in telecommunications manholes, provisions of 29 CFR 1910.268(o) are also applicable. The contractor shall coordinate any such work in

confined spaces with the KSC Environmental Health Support Contractor, KSC Fire Services Support Contractor, and any other resident government or contractor organization whose employees may have access to the work location. The provision of Environmental Health services by the government does not prohibit the contractor from providing their own atmospheric testing. Government provided services include environmental health monitoring and consultation support for testing of atmospheres in confined spaces as well as fire rescue and emergency medical services.

(b) Entry into and work in confined spaces shall be in accordance with the requirements of KNPR 1820.4, "KSC Respiratory Protection Program," KNPR 1840.19, "KSC Industrial Hygiene Handbook," and all other applicable clauses of this contract.

(c) Confined spaces, which contain water, shall be pumped out by the contractor prior to scheduling a confined space entry check.

(d) In addition to the requirements set forth above, the Contractor shall notify and obtain approval from the Power Coordinator, telephone 321-867-7300, and/or from Communications Control, telephone 321-867-4141, respectively, prior to performing work in electrical and/or communications manholes.

J-B-13 TESTING OF CONSTRUCTION MATERIALS

Tests of construction materials indicated to be performed by the Contractor shall be accomplished by the Contractor utilizing the services of an acceptable independent testing laboratory.

J-B-14 AFFIRMATIVE PROCUREMENT

AP is the purchase of environmentally friendly products and services (i.e. products made from recycled or recovered materials). Federal agencies, their Contractors and subcontractors are required to maximize the purchase materials on the list of "EPA Designated Guideline Items" with the minimum recycled or recovered materials content whenever practicable according to RCRA 6002 and EO 13101. The requirements of RCRA 6002 include the following:

"The decision not to procure such items shall be based on a determination that such procurement items:

(A) are not reasonably available within a reasonable period of time

(B) fail to meet the performance standards set forth in the applicable specifications or fail to meet the reasonable performance standards of the procuring agencies

and/or

(C) are only available at an unreasonable price.

Any determination under subparagraph (B) shall be made on the basis of the guidelines of the National Institute of Standards and Technology in any case in which such material is covered by such guidelines."

The Contractor shall provide AP approved items as specified within the contract documents. Submittals for AP items shall be provided for approval in accordance with Shop Drawing provisions. If the Contractor proposes to substitute an item that does not conform with AP requirements, the applicable Shop Drawing shall be accompanied by KSC Form 8-69, Contractor Request to Use Nonconforming Parts or Material *(Deviation/Waiver Request)* identifying the reason for the proposed substitution.

Non-conforming items without approved D/W's will be rejected and the contractor shall be responsible for any costs and schedule impacts associated with replacing such non-conforming items at no additional cost to the Government.
At the conclusion of the project, the Contractor shall provide the Contracting Officer (CO) with a report itemizing all AP items used.

Detailed information on the EPA AP specified/approved products and manufacturers providing these products is available at www.epa.gov/cpg/products.htm.

J-B-15 SPILLS

The Contractor shall make all reasonable and safe efforts to contain and control any spills or releases that may occur. The Contractor shall immediately report (by phone) any occurrence of a pollution incident or spill, first to the Emergency 911 (321-867-7911 from a non 867/861 exchange), then to the Contracting Officer (CO). The Contractor shall document the incident or spill on KSC Form 21-555, "Pollution Incident Report," and submit it to the CO and NASA Environmental Assurance Branch (EAB), TA-B1B, within 24 hours of the incident.

The Contractor shall provide spill response materials to contain and control spills including, but not limited to, containers, absorbent material, shovels, and personal protective equipment. Spill response materials shall be available at all times in which materials/wastes are being handled or transported. Spill response materials shall be compatible with the type of material being handled.

The KSC Spill Cleanup Team will be responsible for the final cleanup and validation of a spill or release.

The Contractor's prompt action to minimize the impacted area and to timely report any occurrence will increase the Spill Cleanup Team's ability to complete the spill cleanup and therefore reduce the Contractor's liability for a larger cleanup.

J-B-16 WEEKLY STATUS MEETING

The Contractor shall attend a weekly progress/status meeting to be scheduled by the Contracting Officer for the purpose of determining progress status, delaying factors, material delivery schedules, and status of shop drawing submittals. In addition, a representative of each first tier subcontractor may be required to be present for the conference.

J-B-17 SUPERINTENDENT ASSIGNMENT

Working Superintendent: Pursuant to FAR clause 52.236-6, entitled "Superintendence by the Contractor," the Contractor shall assign a superintendent, on the Contractor's payroll, whose primary responsibility will be to superintend the work and who has the authority to act for the Contractor. One or more alternate superintendents, each with full authority to supervise the work, shall be designated in writing and approved by the Contracting Officer. The superintendent or an alternate shall be physically present at each work site at all times during performance of the contract and until the work is completed and accepted.

J-B-18 MATERIAL SAFETY DATA SHEETS (MSDS) SUBMITTAL/CHEMICAL INVENTORY REPORTING AND MANAGEMENT

The Contractor shall provide a complete and accurate list accompanied by the applicable Material Safety Data Sheets (MSDS), of all materials and chemicals listed on the Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112(r) of the Clean Air Act that will be stored onsite and/or used in the execution of this contract, regardless of the quantity. This information shall be provided to the Contracting Officer (CO) prior to the time of delivery of the materials and chemicals to the site. This inventory is to be updated and resubmitted to the CO on a monthly basis. All inventory reporting is to be completed on the Chemical Inventory for Construction Projects at Kennedy Space Center Form (8-313NS). Appropriate labels and MSDS shall be provided for all chemical shipments.

J-B-19 WASTE CHARACTERIZATION (New Requirement; insert full text)

KSC Form 26-551 "Process Waste Questionnaire" (PWQ) shall be prepared and processed for all waste streams generated during the execution of this project in accordance with article entitled "Hazardous Wastes"

J-B-20 PERMIT REQUIREMENTS

No on-site work will be allowed until the appropriate State and Federal issuing agencies issue all required permits. The government is responsible for obtaining and providing all required permits except as specified below. Permits required may include, but are not limited to, air construction, dewatering, borrow pit, potable water, sanitary sewer, stormwater, National Pollutant Discharge Elimination System (NPDES) and wetlands.

The following permits are known to be required for this project (Fill-In or state "None"):

NONE

The Contractor is responsible for obtaining the following permits, if required, before beginning work on the subject systems:

- FDEP/Brevard County Onsite Sewage Treatment and Disposal System Construction/Permit Abandonment
- FDEP/Brevard County Well Construction/Abandonment Permit.

The Contractor shall comply with the terms and conditions of these permits. The Contractor shall provide copies of these permits as well as copies of all documentation submitted as part of the application process to the NASA Environmental Assurance Branch (EAB), TA-B1B through the Contracting Officer (CO) as delineated in contract documents or as directed by the CO.

The Contractor shall not begin construction before receiving all Federal, State, and local construction permits as indicated in this section. Included in adherence thereto is compliance with all conditions of the permit as well as requirements given in the laws, ordinances, and regulations. The Contractor shall be responsible for payment of any fines from government agencies resulting from the Contractor's failure to adhere to all identified permit conditions and agency regulations. These shall include, but are not limited to, material and construction standards, environmental protection, certifications, notifications, and monitoring requirements.

Upon issuance of the Notice to Proceed, the CO shall make copies of all Government provided permits with conditions related thereto available to the Contractor. The Contractor shall keep copies of the permits and related materials such as drawings.

J-B-21 PROTECTION AND CLEAN-UP OF CLEAN ROOM FACILITIES

(a) The Contractor will protect Clean Room floors, walls, ceiling, and all equipment from contamination by dust and fumes. This will entail isolating all dust and fume producing operations within a partitioned area and covering all facility surfaces within this area.

(b) Floors will be protected from construction equipment damage with cardboard and plywood covering. Drip pans will be used beneath parked equipment which contains hydraulic fluid, oil or other organic fluids. Any construction vehicle which leaks oil or other organic liquids will not be allowed within the facility.

(c) Wherever work is performed above Clean Room suspended ceilings, the Contractor shall install protective tarpaulins above the ceiling to prevent damage from falling debris. No demolition or construction debris shall be stored on beams or platforms above the ceiling. The Contractor shall remove all such debris as it is produced. Particulate matter shall be removed by vacuuming should it accumulate on the upper surface of the ceiling.

(d) Prior to beginning any construction within the Clean Room, the Contractor will arrange with the Government for an airborne particle count. After construction is complete another particle count will be made. Should the second particle count be higher than the pre-construction count, or if any surfaces have been visually contaminated, the Contractor will be required to clean all Clean Room surfaces and equipment as follows:

(1) Walls, ceilings, ledges, rails, equipment, etc.; hand wipe all surfaces with low lint cloths or foam wipes using a cleaning solution of Joy detergent or trisodium phosphate. Follow with a rinse wipe with distilled water.

(2) Floors; machine scrub floors with abrasive pads and Johnson Wax Stripper #4595 or approved equal commercial cleaning solution followed with three or more clear washes until all residues are removed.

(e) Contractor must repeat the above cleaning procedures until an airborne particle count meets the requirements of K-STSM-14.2.1, tables 3-1 and 3-3, or is lower than the pre-construction level and until all surfaces are visibly clean. Any surface which cannot be restored to its pre-construction cleanliness will be refinished by the Contractor to match existing finishes and materials.

J-B-22 ABRASIVE BLASTING AND PAINTING

To the maximum extent possible, abrasive blasting and painting shall be performed before materials are delivered to KSC. A National Association of Corrosion Engineers (NACE) inspection report shall be provided to the Contracting Officer (CO) one (1) week prior to delivery of hardware painted offsite. Where field operations at KSC/CCAFS are required by contract documentation, the Contractor shall perform the operations in accordance with the following:

ABRASIVE BLASTING

Operations for paint/coating removal or other corrosion control activities involving the use of abrasive blasting to prepare surfaces shall not be allowed to contaminate soil or surface waters. To ensure this, the Contractor shall do the following:

a. Provide tarpaulin drop cloths, windscreens, and other means necessary to enclose abrasive blasting operations to confine and collect dust, abrasive, agent, paint chips, and other debris.
b. Collect, sample and dispose of in accordance with “disposal” paragraph all material removed and/or generated, including coating materials and blast media.
c. Protect storage areas for blast media and blast debris from the natural elements to prevent contamination.

EXTERIOR PAINTING

When painting exterior surfaces, the Contractor shall implement measures in the paint application process to minimize the amount of overspray that is created on a project. Drop cloths or similar containment shall be used to prevent paint from coating ground surfaces.

The Contractor shall implement measures to contain any overspray that may be generated as a result of a painting operation. The Contractor shall also implement measures to prevent rainfall and runoff from contacting items such as painting supplies, paint equipment, empty paint cans, etc., which may have paint residue in or on them.

The contractor shall take precautions to protect all Government hardware from contamination or damage during sandblasting and painting operations. The Contracting Officer or representative shall approve the method of protection. The contractor shall be responsible for any and all claims arising from painting or overspray or overblasting. In addition, the contractor shall be responsible for any

repairs to damaged property, and for the collection, removal and disposal of the oversprayed or overblasted materials. The Government will make no additional payments for overspraying or overblasting by the Contractor.

USE OF WATER – WATER BLASTING

The process of preparing certain surfaces, mainly the exteriors of buildings and structures, before the application of surface coatings may incorporate the use of water. These preparation activities include, but are not limited to removing dirt, mold, and mildew before painting (general surface cleaning); using pressurized water to remove coatings (water blasting); and using blast media to remove paint/coatings along with water as a dust inhibitor (wet blasting).

Operations using water shall be performed with either plain potable water or potable water with biodegradable, phosphate-free detergents and/or low concentration ($\leq$ 5%) sodium hypochlorite (bleach), calcium hypochlorite, or hydrogen peroxide.

All material removed and/or generated, including coating materials, water, and blast media, shall be collected for proper disposal. All material removed during water blasting operations will be collected, sampled, and disposed of in accordance with the "disposal" paragraph below. Liquids may be separated from the solid debris by screening the material collected with a 40-micron (or finer) filter mesh.

COATINGS CONTAINING HAZARDOUS CONSTITUANTS

The Contractor shall handle and disposed of all waste containing any hazardous materials in accordance with article entitled "Hazardous Wastes."

DISPOSAL

The Contractor shall dispose of all waste containing nonhazardous materials in accordance with article entitled "Landfill Operations/Solid Waste Removal."

INSPECTION

All abrasive blasting and painting shall be inspected by a Contractor provided NACE inspector to verify compliance with the contract documentation. The inspector's reports shall be provided to the Contracting Officer at the end of each week in which the blasting and/or painting has been performed at KSC. The report shall include information that clearly defines the extent (starting and end points) of work performed during each week.

J-B-23 STORMWATER POLLUTION PREVENTION

The Contractor shall be responsible for providing stormwater pollution prevention measures, including erosion and sediment controls, in accordance with Federal and State Regulations. The pollution prevention measures selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's construction activities. The Contractor shall construct or install temporary and permanent erosion and sediment control best management practices (BMPs) as indicated on the contract drawings and as necessary to minimize environmental damage and maintain compliance with regulatory requirements. The Contractor shall also abide

by any and all NPDES Construction Stormwater and Environmental Resource Permits obtained for the specific project.

A NPDES permit is required for all activities that disturb greater than one (>1) acre of land. A NPDES permit is not required for activities that disturb less than or equal to one (≤1) acre of land; however, the Contractor shall implement erosion control BMPs during construction.

J-B-24 CONCRETE WASTEWATER

CONCRETE WASHOUT

The Contractor shall not allow wastewater from standard concrete construction activities (such as on-site material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, directional drilling, etc.) to enter waterways or to be discharged before being treated to remove pollutants.

The Contractor shall dispose of the construction-related concrete wastewater and concrete excess by collecting and placing it in a contractor constructed settling pond where suspended material can be settled out and/or the water can evaporate to separate solids from the water. The location of the settling pond shall be coordinated with and approved by the Contracting Officer (CO). The Contractor shall remove and dispose of the residue left in the pond and restore site to original condition. Disposal of solidified concrete shall be performed in accordance with the solid waste article.

J-B-25 TOXIC METALS

Representative samples of painted surfaces within the project area have been identified to contain toxic metals. The Contractor shall assess hazards and brief government of their proposed methods of removal and disposal of building materials identified as having toxic coatings and hazardous materials. The Contractor's hazard assessment shall be conducted by a competent health and safety professional. The Contractor shall notify the Contracting Officer of hazard mitigation activities and abatement procedures 14 days prior to disruption to any suspected area.

J-B-26 HAZARDOUS WASTES

Hazardous and controlled waste shall be managed in accordance with all applicable statutes, rules, orders, and regulations which may include but are not limited to 40 CFR Parts 260 - 268, 273, 279, 761 and KNPR 8500.1 KSC Environmental Requirements. All hazardous waste generated during the execution of this contract shall be disposed of by the Government. Unless directed by the Contracting officer, in no case shall the Contractor or the Contractor's representative transport hazardous waste from KSC.

The Contractor shall be responsible for identifying processes and operations and the location and nature of all potentially hazardous and controlled waste and their containers,

as defined in 40 CFR Parts 261, 273, 279, or 761. KSC has established policies and procedures in place to assist the contractor for characterization, handling and storage of wastes generated on KSC. Any request for assistance shall be in writing and submitted to the Contracting officer.

Contractor personnel generating and managing the waste shall have hazardous waste training per 40 CFR 265.16. The Contracting Officer may at any time during the course of the contract performance period require the Contractor to provide individual training records for any employee involved in the performance of this contract, and the contents of the course or courses completed to satisfy the training requirements. Attendance at KSC Training Course QG-211 "Hazardous Waste Management" will satisfy the above training requirements.

The Contractor shall prepare copies of Material Safety Data Sheets (MSDS) for each material utilized on the project and provide copies to the Contracting Officer (CO) thirty (30) days before the start of the waste generation process. No substances shall be delivered to KSC without the appropriate Material Safety Data Sheets.

GOVERNMENT ASSISTANCE

KSC has established procedures for the handling, storage and disposal of hazardous waste. To aide with proper compliance of site-specific requirements, the Government will assign a NASA Environmental Point of Contact (EPOC) for each project. The EPOC shall, upon request, assist with waste hazard determination, packaging, labeling, and disposal requirements for waste generated on KSC. The establishment of the NASA EPOC in no way relieves the contractor for compliance with requirements defined in 40 CFR Parts 261, 273, 279, or 761.

WASTE CONTAINERS

The Government will provide DOT compliant storage containers and labels upon request. The Contractor shall request the storage containers, by providing quantity and type needed, in writing to the Contracting Officer a minimum of one week before the required need date. The containers will be available for pickup by the Contractor at a location designated by the Contracting Officer. For projects that will be generating large quantities of waste (>500 gallon or 75 cu ft), a two week notice must be provided to the CO to ensure availability of waste containers. The Contractor shall be responsible for transporting the containers from storage location to the project site.

SATELLITE WASTE ACCUMULATION AREA (SAA)

The Contractor shall establish an on-site Satellite Waste Accumulation Area within 50 feet (ft) of and within sight of any point where hazardous or controlled wastes may be generated. If a Satellite Waste Accumulation Area must be more than 50 ft from the point of generation, or out of sight of the generator, the Contractor shall provide a written request to the CO

fourteen (14) days before the start of the waste generating process. The CO will send a notification to the NASA Environmental Assurance Branch (EAB), TA-B1B, for their review and concurrence. The EAB will then request approval for a non-routine Satellite Waste Accumulation Area from Florida Department of Environmental Protection. The Contractor shall not place the Satellite Waste Accumulation Area in service before receiving written approval of the variance from the CO. The Contractor shall store potential or identified hazardous and/or controlled wastes in the appropriate properly labeled containers inside the Satellite Waste Accumulation Area in accordance with KNPR 8500.1 (as revised).

UNKNOWN WASTES

If during the course of the project unidentified waste is discovered by the contractor or subcontractors, the contractor shall immediately contact the Contracting Officer and handle the waste as hazardous. The contractor shall not attempt to move, open or test any unknown commodities.

If a hazardous/nonhazardous waste determination cannot be made by process knowledge and no MSDS is available for the waste stream, the container of waste shall be marked with a Hazardous Waste Determination In Progress (HWDIP) label until chemical analysis is completed. At the request of the Contractor, the CO and EPOC will provide any analytical support required by the TRP. The EPOC will arrange for all sampling and testing of potentially hazardous or controlled waste.

If the material is hazardous, the analysis completion date serves as the accumulation start date (ASD). Waste streams labeled with HWDIP labels are a potentially hazardous waste stream; therefore they must be managed as a hazardous waste. In order to fulfill this requirement, the generator shall manage those containers in a Satellite Waste Accumulation Area or 90-day storage area. HWDIP waste generated in amounts less than 55 gallons may be managed as a satellite container. If HWDIP waste is generated in amounts greater than 55 gallons, the additional volume must be moved within 72 hours to a 90-day storage site.

UNIVERSAL WASTES (UW)

For Items meeting the definition of UW, the Contractor shall handle, collect and manage in accordance with 40 CFR 273 and Chapters 62-730 and 62-737 FAC. The EPA established Universal Waste regulations to ease the requirements for managing hazardous wastes that can be recycled. Waste streams currently adopted by the State for management as UW are rechargeable batteries, mercury-containing lamps and devices, capacitors, and certain pesticides.

The Contractor's representative or "Handler" of UW shall be trained for the proper waste handling and emergency response procedures. Attendance at the KSC training course QG-299 "Universal Waste Rule" will satisfy the above. The Contractor shall provide to the CO training records of any "handler" of UW upon request of the CO.

J-B-27 USED OIL MANAGEMENT

Any lubricant that has been refined from crude oil (or synthetic oil) that has been "used," and as a result of such use is contaminated by physical or chemical impurities shall be considered Used Oil. Used oil, including hydraulic fluid, shall be managed according to regulations established in 40 CFR 279, Chapter 62-710, FAC and NASA Procedural Document KNPR 8500.1.

J-B-28 RECYCLING AND SALVAGING MATERIALS

The Contractor shall divert all of the following Construction and Demolition (C&D) waste items from the list below from disposal at landfills and incinerators to facilitate their recycling or reuse. The Contractor shall require all subcontractors, vendors, and suppliers to participate in this effort.

GOVERNMENT PROPERTY

All items or materials designated below to be salvaged shall remain the property of the Government and will be cleaned of non-salvable debris, segregated, itemized, delivered, and off-loaded by the Contractor at the disposal area. Scrap metal will be treated as salvage. The Contractor shall maintain adequate property control records for all materials or equipment specified by the contract to be salvaged. These records may be in accordance with the Contractor's system of property control if approved by the CO. The Contractor shall be responsible for adequate storage and protection of salvaged materials and equipment pending delivery to the disposal area. All materials and real property items identified below shall remain property of the Government unless excluded by the contracting documents. The contractor shall utilize on-site recycling and salvaging procedures for the following:

CONCRETE

Concrete waste must be taken to the Diverted Aggregate Recycling and Collection Yard (DARCY) located at Schwartz Road Landfill. Follow the guidelines in the KSC DARCY Management Plan, which will be provided to the Contractor at the Pre-Work Conference.

CARDBOARD, ALUMINUM CANS, PLASTIC BEVERAGE BOTTLES, GLASS (NON-INDUSTRIAL), WHITE PAPER / MIXED PAPER

These items require coordination with NASA recycling manager. NASA has recycling containers placed throughout KSC. The contractor shall collect, segregate and transport these materials to the closest receptacle. NASA may provide containers to contractor site for projects generating large volumes of materials in this category.

ELECTRICAL, OFFICE, AND OTHER EQUIPMENT

These items require inspection by RRMF/Environmental

Management Branch recycling personnel to provide proper disposition of material. Electrical equipment (transformers / switchgear / panels / disconnects…..) disposition will be made on a case by case basis based on level of contamination and value.

METALS: ALUMINUM, BRASS, COPPER, REBAR, STAINLESS STEEL, STEEL, OTHER FERROUS, OTHER NON-FERROUS, SCRAP METAL

All metals coated with non-liquid PCB paints with levels below 50 parts per million shall be recycled by the contractor. Any metals coated with non-liquid PCB paints with levels above 50 ppm shall utilize the Schwartz Road Landfill after Government approval.

CONTRACTOR PROPERTY

All materials and real property items identified below shall become property of the contractor at the NTP. The Contractor may, at his discretion, assume ownership of and recycle all other Construction and Demolition Debris that has not been identified for salvage in the Contract Documents, or has otherwise been designated as Government property. All recyclable material obtained by the Contractor for recycling shall be removed from the Kennedy Space Center and recycled; it shall not be stockpiled at the Kennedy Space Center. The Contractor shall assume ownership of these recyclable materials once they are transported off of the Kennedy Space Center.

ELECTRICAL, OFFICE, AND OTHER EQUIPMENT

These items require inspection by RRMF/Environmental Management Branch recycling personnel to provide proper disposition of material. Electrical equipment (transformers / switchgear / panels / disconnects…..) disposition will be made on a case by case basis based on level of contamination and value.

REPORTING REQUIREMENT

The Contractor shall record C&D waste materials on the “Construction & Demolition Projects Report“, KSC Form 7-648 NS (02/07) and submit the form on a monthly basis and keep log on site per direction of the Contracting Officer (CO).

J-B-29 SOLID WASTE

The Contractor shall be responsible for the proper management of all solid waste generated at the Kennedy Space Center from the execution of this contract. The Contractor shall segregate and transport all solid waste to disposal locations designated in the Contract Documents. The Contractor shall police work areas daily for loose trash and debris. The Contractor shall collect and properly dispose of wind-blown debris daily to prevent migration of debris/trash offsite.

Trash items not requiring special handling, or which cannot be resold or recycled, shall be disposed of in receptacles slated for disposal in either the KSC Landfill or the Brevard County Landfill. The Kennedy Space Center has numerous policies and processes in place to properly categorize, handle, store and dispose of waste streams generated during the project. It is the contractor's responsibility to make every effort to reduce the impact of the project on the environment. This includes utilizing all practical means to reduce the amount of waste that is landfilled or incinerated.

J-B-30 DIVERTED SOLID WASTE

The Contractor shall dispose of the following solid wastes at onsite KSC disposal facilities: Soils, Trees / tree remains, Vegetative material, Non-pressure treated wood, Dimensional non-pressure treated lumber, Pallets (Unserviceable Wood), Blast Media (non-hazardous), and clean non-coated concrete.

DARCY (*Diverted Aggregate Reclamation and Collection Yard*)
The contractor shall segregate clean, unpainted concrete from other Construction and Demolition Debris and deliver it to the Kennedy Space Center's Diverted Aggregate Recycling and Collection Yard (DARCY). The DARCY is located west of the Schwartz Road Landfill entrance. The Government shall retain ownership of all material delivered to the DARCY. EPOC shall provide DARCY operating plan upon request.

J-B-31 SCHWARTZ ROAD LANDFILL OPERATIONS

The KSC Landfill is an unlined Class III landfill. Any waste permitted by DEP regulations for disposal in a Class III landfill as defined in Rule 62-701.200(14), FAC can be accepted at the landfill (excluding friable asbestos). For the purpose of meeting recycling, waste diversion and reuse goals, KSC has restricted certain solid waste from landfill disposal (See *article Recycling and Salvaging*). Landfilling of waste shall be the Contractor's last option for disposal.

The physical dimensions of the waste shall be within the handling capabilities of the landfill disposal equipment. The physical dimensions for the landfill handling capabilities are 8 feet in length x 8 feet in width. Only the following items listed will be accepted at the landfill:

(1) Asphalt: Asphalt removed from parking lots, driveways, and roadways.

(2) Blast Media: The blast media must be as free from debris as possible and determined nonhazardous for acceptance into the KSC Landfill. The Spent Sandblast Media Disposal Form must accompany the blast media to the landfill and will be reviewed by the landfill operator. Blasting media determined to be a hazardous waste must be managed as hazardous waste.

(3) Carpeting

(4) Construction and Demolition Debris: Materials considered not water soluble and non-hazardous in nature, including but not limited to steel, brick, glass, concrete, asphalt, pipe, gypsum wallboard and non-pressure treated or unpainted lumber. This also includes rocks, soils, tree remains and other vegetative matter, which normally result from land clearing or development. Scrap metal from demolition projects should be managed according to guidance provided under article entitled “Recycling and Salvaging Materials”. The landfill may not accept any painted materials that test above the lower Toxicity Characteristic Leaching Procedure (TCLP) detection limits for barium, cadmium, chromium, lead, and mercury. If TCLP results are above the lower TCLP detection limits, the Contractor shall submit a PWQ for evaluation per article entitled “Hazardous Wastes.”

(5) Fiberglass

(6) Glass (except light bulbs or lamps).

(7) Non-Friable Asbestos: Non-friable asbestos, also referred to as Non-Regulated Asbestos Containing Materials (NRACM) is handled on a case-by-case basis. KSC policy allows for the disposal of NRACM only. In order to dispose of non-friable asbestos, the Contractor shall complete and submit the KSC/Schwartz Road Landfill Non-Friable Asbestos form (KSC 28-1084 NS), which can be obtained from the Contracting Officer (CO) or the CO’s designee. The form shall be sent to NASA EAB, TA-B1B.

The following scheduling procedures shall be followed before NRACM wastes are accepted at the landfill:

a. The waste generator/hauler shall make arrangements with the landfill operator a minimum of 24 hours before disposal of NRACM waste and shall inform the operator of the quantity of the waste and the scheduled date the shipment will arrive at the landfill.

b. NRACM will be accepted at the landfill with prior arrangement with the scale house attendant (minimum of 24 hours notification) Monday through Friday during regular landfill hours, but will not be accepted later than 1400 hours.

(8) Pallets (Unserviceable Wood and Plastics): Pallets that are not reusable or recyclable are accepted.

(9) PCB Bulk Product Waste: Refer to Clause “PCB Management.”

(10) Wood: Miscellaneous non-pressure treated wood items are accepted.
(11) Yard Waste (Vegetation): Vegetation from maintenance and land clearing activities is accepted.

J-B-32 ASBESTOS-CONTAINING BUILDING MATERIALS

Asbestos Containing Materials (ACM) are known to be present in facilities and or structures assigned under the scope of this contract. The Government will provide information regarding the location and quantity of known ACM in the facilities under this contract to the Contractor through the Contract Documents.

The contractor shall employee asbestos abatement contractors licensed by the State of Florida in accordance with Florida Statute 469 Asbestos Abatement. This documentation must be available onsite and shall be provided to the Government or Government representative upon request.

The Contractor shall abate all RACM as shown or specified in the contract documents and shall notify the Contracting Officer if any undocumented ACM or suspected ACM is encountered. The Contractor shall provide a written Asbestos Management and Abatement Implementation Plan which is consistent with the requirements of Federal and State regulations. These regulations include the Occupational Health and Safety Administration (OSHA) regulation 29 CFR 1926.1101, the Code of Federal Regulations (CFR) National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 61 Subpart M, the Florida Administrative Code (FAC) requirements FAC 62-257, and the Florida Statute (F.S.) 469 Asbestos Abatement and F.S. 376.60 Asbestos Removal Program Inspection and Notification Fee.

If more than 260 linear feet, 60 square feet or 1 cubic meter of RACM is to be removed, or any load-bearing structure is to be demolished regardless of whether or not asbestos is present, the Contractor shall submit to the Florida Department of Environmental Protection (FDEP) a “Notice of Asbestos Renovation and Demolition Form” (DEP Form 62-257.900(1). This notice shall be submitted two (2) weeks before demolition. A copy of the notification shall be provided to the Contracting Officer (CO) and the NASA Environmental Assurance Branch (EAB), TA-B1B. This notice shall be submitted for asbestos abatement and/or demolition of any load-supporting structural member. The State asbestos removal program requirements of F.S. 376.60 and the renovation or demolition notice requirements of the NESHAP 40 CFR Part 61, Subpart M, as embodied in FAC 62-257 are included on this form. If a project will disrupt construction materials in any way, the Contractor shall complete an asbestos survey. If it is unknown if ACM exist, the Contractor shall contact the COTR to complete a Support Request (KSC Form 19-15) to have KSC Environmental Health provide an asbestos survey.

Asbestos materials must be handled, packaged, labeled and disposed of per EPA 40 CFR 61 and OSHA Construction Standards 29 CFR 1926.1101. All regulated asbestos waste shall be disposed of at the Brevard County Landfill located on Adamson Road in Cocoa, Florida. Non-friable asbestos can be disposed of at the KSC Schwartz Road Landfill in accordance with Environmental Procurement Clause “Schwartz Road Landfill Operations.”

J-B-33 UNIQUE PROJECT SPECIFIC

NOISE AND DUST CONTAINMENT

Special measures (water suppression) shall be taken by the Contractor to limit the noise and dust migration during demolition and construction activities.

INDOOR AIR QUALITY

The Contractor is responsible for constructing, inspecting, and maintaining containment of the construction work area(s) that will prevent migration of dusts, smokes, fumes, gases, and vapors that are generated during demolition and construction activities into occupied space outside the construction zone. Government will investigate Indoor Air Quality (IAQ) complaints received from employees in adjacent work areas throughout this project. If Government identifies IAQ problems that are the result of inadequate containment of the demolition and construction work area(s), the Contractor shall be required to take appropriate control measures at Contractor's expense to mitigate.

LANDSCAPING AND BUILDING

The contractor shall be responsible and bear the expense for repair and replacement of all items damaged during demolition and construction. The Contractor shall take steps to protect and prevent damage to building components, irrigation, landscaping, plants, trees, shrubbery, grasses, sidewalks, roads, vehicles, etc. during these operations. Any building components, irrigation, landscaping, plants, trees, shrubbery, grasses, sidewalks, vehicles, etc. damaged by the contractor shall be repaired/replaced to original condition by the contractor at the contractor's expense. Sidewalk sections that are damaged shall be replaced in whole from cold joint to cold joint, typically 5 feet. The Contractor shall be responsible for returning any damaged items to existing condition to the Contracting Officer's satisfaction. Repairs/replacements shall be approved by the Contracting Officer before repair work commences.

INORGANIC ZINC (IOZ) PAINT WASTE MANAGEMENT

IOZ paint must be segregated and managed as hazardous waste. Prior to generating any waste stream, Contractor must provide all MSDS's and a description of waste generating processes to the assigned Environmental Point of Contact (EPOC) at least four weeks prior to generating wastes. The EPOC will submit PWQs to the KSC Waste Management Office. The KSC Waste Management Office will issue a TRP that lists acceptable storage container types and provides specific marking/labeling instructions.

OCCUPANCY DURING CONSTRUCTION

Facilities adjacent to the work site will be fully occupied during the construction. Care must be taken as to not disturb or interfere with existing Government operations or employees.

CONTINUITY, TEMPORARY UTILITIES AND EXISTING UTILITY SYSTEMS

Facilities adjacent to the work site will be fully occupied by government and government contractor employees during the project. Disruption of services shall

be done in such a way to minimize the impact on building occupants. All utilities that are considered part of the demolition and affect the distribution of service into adjacent facilities and areas must be coordinated with the Contracting Officer prior to disconnecting existing utilities. Outages shall be planned and coordinated in accordance with clause JC-1. This includes utilities such as but not limited to: HVAC, Electric, Fire Alarm, Fire Protection, Water and Plumbing. When utility services are interrupted, the Contractor shall provide temporary generators, HVAC and other temporary utility provisions to maintain continuity of utility services to affected facilities and areas.

NASA EMPLOYEE ACCESS, ENTRANCES AND WALKWAYS
Contractor shall take steps to maintain full and open access to the existing facilities at all times for Government Employees. Construction and demolition work that will impact the exterior of the work area (adjacent walkways, parking, etc.) shall be clearly identified in all adjacent areas that work is taking place above or near this location.

SPECIFIC ISSUES FOR MAINTAINING EGRESS
During the course of this contract, egress around the work site must be clearly marked in order to keep employees safely out of the work areas. The Contractor shall manage this by the use of fences, cones and barricades.

PROTECTIVE BARRIERS
Protective barriers shall be erected to protect Government personnel.

CONTROLS INTEGRATION MEETINGS
This integration shall include meetings where attendance is required for the following parties: prime contractor and controls subcontractor. Government representatives shall include: the Contracting Officer, Contracting Officer Technical Representative, Project Manager, Architect & Engineer, Inspector, and Customer representative. Equipment manufacturer representatives may also be asked to attend these meetings. The Prime Contractor will have ultimate responsibility for the full integration of all controls for this project.

MAJOR EQUIPMENT SUBMITTALS
Major equipment submittals (i.e. AHUs, etc.) shall be unacceptable unless accompanied by all associated ductwork, piping, etc. coordination & fabrication drawings per specifications. Fire protection submittals shall be submitted within 60 days of NTP. HVAC submittals shall be submitted within 75 days of NTP. Fire alarm and control submittals shall be submitted within 90 days of NTP.

SECTION J - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

J.C Department of Labor Wage Determination

General Decision Number: FL100017 04/01/2011 FL17

Superseded General Decision Number: FL20080017

State: Florida

Construction Types: Building, Heavy and Highway

County: Brevard County in Florida.

**CAPE CANAVERAL AIR STATION, PATRICK AIR FORCE BASE KENNEDY SPACE CENTER AND MALABAR RADAR SITE IN BREVARD COUNTY BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and partments up to and including 4 stories) HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	03/12/2010
1	04/23/2010
2	09/03/2010
3	09/10/2010
4	10/29/2010
5	11/12/2010
6	12/17/2010
7	12/31/2010
8	01/21/2011
9	04/01/2011

* ASBE0067-001 01/01/2011

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings and finishings to all types of mechanical systems)	$ 24.62	10.49

ASBE0067-002 07/01/2009

	Rates	Fringes

HAZARDOUS MATERIAL HANDLER
(Includes preparation,
wetting, stripping, removal,
scrapping,
vacuuming,bagging, and
disposing of all insulation
materials from mechanical
systems, whether they
contain asbestos or not).....$ 24.87 10.10

BOIL0199-001 01/01/2009

Rates Fringes

BOILERMAKER.....$ 27.63 13.96
All other work.....$ 25.13 13.96

BRFL0001-001 05/01/2010

Rates Fringes

BRICKLAYER (BRICKLAYERS,
BLOCKLAYERS, PLASTERERS,
TERRAZZO WORKERS, TILE
SETTERS AND CEMENT MASONS)
COMMERCIAL.....$ 18.50 6.00
INDUSTRIAL.....$ 23.15 7.85

INDUSTRIAL work includes: Bulk plants, power houses, chemical plants, missile sites including all work at Cape Canaveral Air Force Station and Kennedy Space Flight Center.

CARP1000-001 07/01/2008

Rates Fringes

MILLWRIGHT.....$ 26.93 10.49
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* CARP1765-001 05/01/2008

Rates Fringes

Carpenters:
*INDUSTRIAL:
CARPENTERS.....$ 23.96 7.21
PILEDRIVERMEN.....$ 21.75 8.65

COMMERCIAL:
CARPENTERS.....$ 22.46 7.21
PILEDRIVERMEN.....$ 21.75 8.65

ELEC0222-001 09/01/2009

Rates Fringes

Line Construction:
CABLE SPLICER.....$ 33.86 4.75+23%
GROUNDMAN.....$ 18.38 4.75+23%
LINEMAN; HEAVY EQUIPMENT
OPERATOR.....$ 32.25 4.75+23%

ELEC0756-001 09/01/2010

Rates Fringes

Electricians:
Cable Splicer.....$ 27.75 6.45+4.4%
Wireman.....$ 27.75 6.45+4.4%

ELEV0139-001 01/01/2010

Rates Fringes

ELEVATOR MECHANIC.....$ 35.08 20.235+A

FOOTNOTE:
A. Employer contributions 8% of regular hourly rate to vacation pay credit for employee who has worked in business more than 5 years; Employer contributions 6% of regular hourly rate to vacation pay credit for employee who has worked in business less than 5 years.

Paid Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; The Day After Thanksgiving and Christmas Day.

ENGI0673-001 05/01/2010

Rates Fringes

Power equipment operators:
GROUP 1.....$ 23.25 8.80
GROUP 2.....$ 22.45 8.80

GROUP 3.....$ 20.91 8.80
GROUP 4.....$ 19.27 8.80

POWER EQUIPMENT OPERATORS

CLASSIFICATIONS GROUP 1: Tower Crane, Locomotive Crane, Crawler Crane, Truck Crane, Hydro Crane, Piledriver (incluidng auger and boring machine)

GROUP 2: Mechanic/Welder and operators of: Gantry Crane, Bridge Crane, Clam Shell, Dragline, Backhoe, Gradeall, Grader, Sideboom Cat, Hulti-Drum Hoist, Highlift (10' or higher), Locomotive Engineer, Tugboat Captain (150 hp or more), Concrete Pump with boom

GROUP 3: Bulddozers, Forklifts, Straddle Buggy, Single Drum Hoist, Winch Truck, Trenching Machine, Concrete Paver, Scraper, Loader, Asphalt Paving Machine, Lubricating Engineer, Fireman, Concrete Breaking Machine, Concrete Mixer

GROUP 4: Tractors, Wellpoint System Operator and Installer, Air Compressor, Pulver Mixer, Motor boat, Power Boat, Power Sweeper, Welding Machine, Oiler, Mechanic's Helper, Pump, Conveyor, Roller, Watertruck, Asphalt distributor, Concrete Pump (trailer type), Utility Operator

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IRON0808-001 07/01/2009

	Rates	Fringes
IRONWORKER	$ 24.28	9.95

LABO0517-001 05/01/2008

	Rates	Fringes
Laborers:		
Asbestos Abatement, Hazardous and Toxic Waste Removal Laborers; (On all mechaincal systems: Lead Base Paint Removal;pipes, boilers, ducts, flues, breechings, ect.; that are going to be scrapped, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive		

work of the laborers;.....$ 17.50 5.47
Carpenter Tender, Cement
Mason Tender, Block/
Bricklayer Tender
Plasterer Tender.....$ 17.50 5.47
Demolition Laborers.....$ 17.50 5.47
General Laborer.....$ 17.35 5.47
Pipelayer Laborer, Laborer
engaged in the pouring of
concrete, mortar mixers,
masonry forklift operator,
and operation of power
tools.....$ 16.32 5.47

PAIN0078-001 08/01/2010

Rates Fringes

GLAZIER.....$ 22.00 8.10

PAIN0078-002 01/01/2010

Rates Fringes

PAINTER.....$ 23.25 9.95

PLUM0295-001 01/01/2011

Rates Fringes

Plumber/Pipefitter/Steamfitter
INDUSTRIAL: Bulk
Plants, Power-houses,
Chemical Plants, Missile
Sites, (Including all Work
at Cape Canaveral Air
Force Station and Kennedy
Space Flight Center but
excluding work performed
at Patrick Air Force Base
and Malabar Radar Site),
Oil Refineries, etc., and
such other wirk which is
related to and considered
a part of the above type
projects.....$ 32.13 14.87
Schools, Hospitals,

Shopping Centers, and work
not listed as Industrial....$ 32.13 14.87

ROOF0103-001 02/01/2003

Rates Fringes

ROOFER, Including Built Up,
Composition and Single Ply
Roofs.....$ 14.50 5.10

SFFL0821-002 01/01/2010

Rates Fringes

SPRINKLER FITTER
Commercial.....$ 26.80 14.30
Industrial.....$ 29.00 14.30

Industrial: Jobs covering sugar mills, power plants, trash burning plants, military installations and Cape Kennedy. All other work shall be commercial rate.

SHEE0015-001 07/01/2009

Rates Fringes

SHEETMETAL WORKER.....$ 25.41 12.78

TEAM0385-001 05/01/1990

Rates Fringes

TRUCK DRIVER.....$ 13.00 .80

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates

listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

J.D KSC Construction Contractor Safety and Health Practices Procedural Requirements, KNPR 8715.7. This user guide and associated KNPRs does not relieve contractors of their obligations under OSHA regulations or any other applicable Federal, State, and local laws and regulations

Kennedy NASA Procedural Requirements

Effective Date: **November 24, 2009**

Expiration Date: **November 24, 2014**

Responsible Office: **Safety and Mission Assurance**

KSC Construction Contractor Safety and Health Practices Procedural Requirements

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National Aeronautics and Space Administration

John F. Kennedy Space Center

Revision History

The primary purpose of this document is to make available to NASA/KSC construction contractors requirements regarding Safety, Health, and Fire Prevention including project Safety and Health Plans, workplace safety compliance to 29 CFR 1926 (Safety and Health Regulations for the Construction Industry) and 29 CFR 1910 (Safety and Health Regulations for General Industry), National Consensus Standards, and NASA/KSC Safety Program and Policies.

Some of the requirements presented herein are repeated in this KNPR for convenience and appear in other requirements documents. Revisions of this KNPR will reflect changes to these requirements in other documents.

TABLE OF CONTENTS

Preface

P.1 Purpose

a. The safety and health of all persons involved in any type of work at the National Aeronautics and Space Administration's (NASA) John F. Kennedy Space Center (KSC) is paramount. Safety is the freedom from conditions that can cause death, injury, occupational illness, damage to or loss of equipment or property, or harm to the environment. NASA's safety priority is to protect the public, international partners, astronauts and pilots, the NASA workforce (including contractor employees working on NASA contracts), and high-value equipment and property.

b. This Construction Contractor Safety and Health Requirements Kennedy NASA Procedural Requirements (KNPR) was compiled for use by NASA/KSC Construction Contractors to assist them in developing Site Specific Safety and Health plans for their work at KSC and to assure contractors and their employees (to include subcontractors) perform all work in a safe manner compliant with 29 Code of Federal Regulation (CFR) 1926, Safety and Health Regulations for the Construction Industry, 29 CFR 1910, Safety and Health Regulations for General Industry, national consensus standards, and NASA and KSC Safety Program and Policies.

c. This document is a summary of safety information, requirements, and regulations that NASA construction contractors shall follow when conducting work on KSC. Information provided is for reference only and is not intended to cover all safety requirements of the Occupational Safety and Health Administration (OSHA) and this contract. This KNPR is not intended to relieve contractors of their obligations under OSHA regulations or any other applicable local, State, or Federal laws and regulations.

P.2 Applicability

The provisions of this document are applicable to all prime NASA/KSC construction contractors and associated subcontractors performing work under construction contracts to the NASA/KSC procurement office.

P.3 Authority

KNPD 8700.1, Safety and Mission Assurance Policy Directive

P.4 Applicable Documents

a. 29 CFR Part 1926, Occupational Safety and Health Standards for Construction Industry

b. 29 CFR Part 1910, Occupational Safety and Health Standards for General Industry

c. NFPA 70E, Standard for Electrical Safety in the Workplace

d. OSHA Publication 3071, Job Hazard Analysis (JHA)

e. NPR 8715.3, NASA General Safety Practices Procedural Requirements

f. KNPD 1800.2, KSC Hazard Communications Program

g. KNPR 1820.3, KSC Hearing Loss Prevention Program

h. KNPR 1820.4, KSC Respiratory Protection Program

i. KNPR 1840.19, KSC Industrial Hygiene Program

j. KNPR 1860.1, KSC Ionizing Radiation Protection Program

k. KNPR 1860.2, KSC Non-Ionizing Radiation Protection Program

l. KNPR 8715.3, Kennedy Safety Practices Procedural Requirements

m. NASA-STD-8719.9, Standard for Lifting Devices and Equipment

n. ANSI A10-14, Requirements for Safety Belts, Harnesses, Lanyards and Lifelines for Construction and Demolition Use

o. ANSI A92.2-2001, Vehicle Mounted Elevating and Rotating Work Platforms

p. 45TH Space Wing Instruction 15-101, Weather Support

q. KSC-PLN-1904, Trailer/Equipment Tiedown Plan for the Kennedy Space Center

r. KSC-PLN-2807, Mishap Preparedness and Contingency Plan

s. KSC-STD-Z0008, Standard for Design of Ground Life Support Systems and Equipment

P.5 Cancellation / Supersession

None

Original signed by

Shannon D. Bartell
Director, Safety and Mission Assurance

Chapter 1: General information

1.1 Goal

To assure NASA/KSC Construction Contractors provide for a safe work environment for their employees and their subcontractors while also protecting NASA employees (to include contractors) from injury and equipment and property from damage or loss.

1.2 Objective

This document is a requirements document containing Safety and Health issues and requirements to be performed by construction contractors for KSC and does not directly identify or consider environmental issues or regulatory requirements.

1.3 Responsibilities

It is the responsibility of the prime contractor to ensure that the safety and health requirements identified in this document and the Site-Specific Safety and Health Plan (SSSP) are observed by all contractor and subcontractor employees on the job site.

1.4 Terminology

a. The terms “plan,” “safety plan,” and “Site-Specific Safety and Health Plan” are used interchangeably in this document.

b. Throughout this document, the terms “contractor” and “construction contractor” are used synonymously and denote the responsible organization for identifying and performing safety and health requirements. These terms include all prime and subcontractor employees.

CHAPTER 2: SITE-SPECIFIC SAFETY AND HEALTH PLAN (General Requirements)

2.1 General Requirements

a. The Site-Specific Safety and Health Plan (SSSP) shall address the policies, procedures, and techniques that will be used to assure the safety and occupational health of the contractor's and their subcontractor's workforce on the awarded contract. Additionally, the contractor shall address how they will protect the NASA workforce (including contractor employees working on NASA contracts), the public, and NASA equipment and property.

NOTE: Corporate safety and health plans (program) should be used in the development of the SSSP, but as a standalone document it does not fulfill the requirements of a site-specific plan.

b. At a minimum, all areas of this chapter shall be applicable to all construction contractors.

NOTE: Contractors and subcontractors are expected to be knowledgeable of and comply with the NASA and KSC policies contained in the contract, all applicable sections of OSHA regulations, and other applicable local, state, and federal laws.

c. The SSSP shall apply to all employees working on the site, including all subcontractor employees.

d. The prime contractor's site supervisor shall be responsible for ensuring employees abide by all applicable regulatory and NASA/KSC (identified in the accepted SSSP) safety and health requirements and best practices as defined by national consensus standards.

NOTE: It is the responsibility of the contractor's site supervisor to inform the Contracting Officer (CO), Contracting Officer Technical Representative (COTR), and safety specialist of updates or changes to the SSSP.

e. Review and acceptance of the SSSP by the NASA/KSC CO in consult with NASA/KSC Institutional Safety Branch shall occur prior to commencement of any site work.

f. Any specific hazard SSSP requirements (e.g., Confined Space, Maintenance of Traffic, Fire Protection, etc) shall be included as an appendix to the SSSP.

NOTE: The areas contained in Chapter 3, Site-Specific Safety and Health Plan (Project-Specific Requirements), are additional areas that will be addressed as required based on the specifics and applicability to the work to be performed by the contract.

g. A safety specialist representative from the Center Safety Office (Institutional Safety Branch) will be assigned to each contract to advise the project CO and COTR and to monitor and evaluate the safety of the contractor's construction operations.

h. Any evaluation given by the safety specialist is to be deemed advisory only and shall not relieve the contractor from any responsibility for safety matters.

i. The job site shall be subject to inspection by the Center Safety Office for safety and health requirements compliance.

j. Noncompliances uncovered by the Center Safety Office for safety and health requirements are identified to the contractor's site supervisor, documented and processed in a report provided to the project CO and COTR weekly.

k. Safety specialist, contract project manager, and safety manager names and telephone numbers shall be exchanged no later than at the pre-work meeting.

l. Contractors shall verify (not merely assume) that all drawings/documents depicting existing configurations are correct for areas posing hazards to personnel or property.

m. Contractors that fail to follow safety procedures, create, or allow imminent danger situations to occur, or accumulate multiple safety noncompliances shall be issued a stop work order by the CO until the safety issues are corrected.

NOTE: A "stop work order" differs from "stop work authority," which can be invoked by any employee on KSC when any activity poses an imminent danger to personnel. See definitions in Appendix A for additional clarification.

2.2 Contractor Employee Training

a. All contractor personnel engaged in job site activities shall receive the required training prior to initiation of work activities.

NOTE: Personnel may not perform any work activity on the job site until they have received the required training for the respective job activities.

b. The contractor shall identify in their SSSP employees that will serve in a special role, such as site supervisor, competent person, qualified person, heavy equipment operator, etc.

c. The contractor shall certify that all employee training (including subcontractor employee training) required by NASA and OSHA standards has been completed and is current.

d. New employees shall have their training verified by the prime contractor's site supervisor prior to any site work involvement.

e. Contractors using temporary employees shall train or verify and certify (document) that these employees are trained on OSHA and the SSSP requirements for the tasks they will be performing.

f. Contractors shall ensure that the safety and health trainer is knowledgeable through relevant education and experience to conduct training in the area(s) being taught.

g. The training certification shall include the employee name, date of training, expiration dates of training, type of training received, instructor name, and credentials.

h. These training certification records shall be maintained at the job site and shall be available for review by the assigned project safety specialist.

i. The training certification summary shall be signed by a company official (manager) and provided as part of the contractor's SSSP.

j. The training certification summary shall be updated monthly to reflect additions and deletions from the employee lists and to maintain current employee training expiration dates.

k. Updated training certification summaries shall be maintained at the job site and shall be available for review by the assigned project safety specialist.

2.3 Accident / Incident (Mishap / Close Call) Reporting

a. In the event of a mishap, the contractor shall take immediate action to prevent further injury to personnel and/or damage to any property.

NOTE 1: In the event of a serious accident / incident, immediately call 911, (321) 867-7911 (cell phone on KSC), or (321) 853-0911 [cell phone on Cape Canaveral Air Force Station (CCAFS)]. Ambulances are on call 24 hours/day; 7 days/week on KSC and CCAFS).

NOTE 2: A 911 call should be made for any mishap, even when there is no apparent injury (i.e., a piece of heavy equipment is damaged but the operator appears uninjured) because this begins the notification process and minimizes the potential risk of further incidents or injury.

b. The contractor site supervisor shall take action or give support to NASA response personnel to secure the site, limit unnecessary access, and preserve evidence until the site is released by KSC Security, KSC Safety, or the mishap board chairperson.

c. The contractor shall ensure all potential incident witnesses remain at the worksite until interviewed and released by the NASA Safety Investigator.

d. Type A or B Mishap / Close Call incidents (property damage greater than $250,000 or personnel injury/illness equivalent to or exceeding inpatient hospital care within 30 days of mishap or permanent or partial disability) shall be reported within 1 hour to the Center Institutional Safety Office [(321)867-SAFE], the project CO, and COTR by telephone or in person.

e. Type C or D Mishap / Close Call incidents (property damage greater than $1,000 or personnel injury/illness equivalent to or exceeds a nonfatal OSHA-recordable occupational injury and does not meet the criteria of an A or B Mishap / Close Call) shall be reported to the Center Institutional Safety Office, CO, and COTR within 4 hours of the event (or by 7:30 AM the next workday for incidents occurring during shifts other than first shift) by telephone [(321) 867-SAFE] or in person.

f. Initial notification / report for mishaps and close calls shall include the time, the location, a description of the event, the organization(s) involved in the event, and a preliminary worst case estimate of the injuries/illness and/or the direct cost estimate of the damage resulting from the event.

g. The contractor shall submit a KSC Incident Report by e-mail or fax (867-1120) within 4 hours of a Mishap / Close Call.

h. The contractor shall notify their company president/top-level management or program manager of all incidents that are deemed immediately dangerous to the life and/or health of their employees.

i. The contractor shall investigate all Type C or D Mishap / Close Call incidents (unless directed otherwise by the NASA Safety Office) in order to determine the root cause and furnish the CO with a written report within 30 days of the mishap or close call by completing page 2 of the KSC Incident Report form, which shall include the investigation findings and proposed or completed corrective actions.

j. The contractor shall perform trend analysis of their mishaps / close calls to identify potential reoccurring safety issues and share the analysis results with all contract employees.

2.4 Weather Policy

2.4.1 General

Contractors performing work outdoors shall have a means of receiving the KSC weather advisories and warning alerts at all times during work performance. The contractor can receive these alerts from a weather warning pager (issued through the CO) or text message received on a cell phone.

NOTE: Wind, lightning warnings, and other adverse weather warnings are announced over the KSC Center-wide public address system. For tornado sightings, KSC will activate the Center-wide tornado warning siren system and make announcements over the public address system.

2.4.2 Wind Policy

The contractor shall adhere to outdoor work restrictions as follows:

(1) During steady state winds of 18 knots [20.7 miles per hour (mph)] or greater or gusts of wind 22 knots (25 mph) or greater, no erection of or work on floats, spiders, and /or scaffolding, nor lifting of personnel in buckets, crane baskets, etc. shall occur.

(2) During steady state winds of 20 knots (23 mph) or greater or gusts of wind 25 knots (28.7 mph) or greater, no mobile/portal crane hoisting or crane operations shall occur. When lifting operations are underway and winds at this level or above occur, safe the load and discontinue lifting operations.

(3) During steady state winds of 30 knots (34.5 mph) or greater or gusts of wind 35 knots (40.3 mph) or greater, no work on facility roofs, structure tops, unprotected areas or outside hand rails shall occur and all materials on roofs shall be secured or removed.

(4) During steady state winds of 35 knots (40.3 mph) or greater or gusts of wind 40 knots (46 mph) or greater, contractor supervisors shall immediately conduct a walk down of their area for unsecured items.

(5) During steady state winds of 40 knots (46 mph) or greater or gusts of wind 45 knots (51.7 mph) or greater, immediate actions shall be taken to secure at ground level all loose or unanchored items, equipment, supplies and/or materials.

NOTE: The CCAFS Weather Office issues advisories for winds less than 35 knots and warnings for winds greater than 35 knots

2.4.3 Lightning Restrictions

a. During Phase 1 Lightning Advisory, it shall be permissible for outdoor and all electrical system work to continue provided that the operations can be terminated immediately upon notification of Phase 2 Lightning Advisory.

NOTE: Phase 1 Lightning Advisories are issued via the Center-wide public address system with a desired lead-time of 30 minutes when the potential for lightning is expected to move into, or develop within 5 nautical miles (nm) (9.26 kilometers) of specified work areas.

b. During Phase 2 Lightning Warning:

(1) Employees at risk of lightning strikes shall take immediate cover.

(2) Personnel access to roofs or open top levels of structures shall be prohibited.

(3) Electrical systems work and maintenance (indoors and outdoors) and any other operation requiring personnel to put themselves at risk of lightning exposure shall be prohibited.

NOTE: Phase 2 Lightning Warning are issued via the Center-wide public address system when lightning is considered imminent or actually occurring within the aforementioned (Phase 1) 5 nm (9.26 kilometers) work area.

2.4.4 Tornado Notification

a. During a Tornado Watch, the contractor's site supervisor shall take the necessary measures to ensure all construction site workers can take immediate cover in an approved structure when a Tornado Warning is issued.

NOTE: Tornado Watches are issued via the Center-wide public address system as an alert that conditions are favorable for the development of tornadoes in and close to the watch area. These watches are issued with information concerning the watch area and the length of time they are in effect.

b. During a Tornado Warning, personnel shall take cover immediately in approved structures.

NOTE: Tornado Warnings are issued via the Center-wide public address system to warn that a tornado has been sighted by storm spotters or has been indicated by radar. These warnings are issued with information concerning where the tornado is presently located and what communities are in the anticipated path of the tornado.

2.4.5 Hurricane Condition (HURCON) Policy

During the Atlantic Hurricane Season (June 1 through November 30), Florida is subject to extreme destruction associated with hurricanes. Contractors will be notified of hurricane conditions when they are present and are required to perform the following actions:

a. Hurricane Condition IV (Arrival of sustained winds of 50 knots / 58 mph or greater within 72 hours): Contractors shall prepare their site by securing structures and loose objects, perform the necessary housekeeping, and prepare for evacuation.

b. Hurricane Condition III (Arrival of sustained winds of 50 knots / 58 mph or greater within 48 hours): Contractors shall evacuate the worksite when directed by the CO and leave KSC.

c. Contractors shall tie down trailers and equipment with anchorage that complies with KSC-PLN-1904, Trailer/Equipment Tiedown Plan for the Kennedy Space Center.

2.5 Clothing

a. Contractor employees conducting work on NASA construction contracts are required to wear appropriate clothing. Appropriate clothing for construction workers shall be (at a minimum) long pants, sleeved shirt (with sleeves at least four inches in length and no tank tops), and a style of shoe appropriate for the type of work to be performed.

NOTE: Overly loose fitting, torn, or ragged clothing is not acceptable.

b. Contractor employees shall report to work daily with the proper clothing suitable for the task and hazard level of work.

c. Safety shoes or boots that comply with American National Standard Institute (ANSI) Z41 [American Society for Testing and Materials (ASTM) F2413-0] shall be required when there is a potential for injury to the feet.

NOTE: It is a recommendation on all construction sites that all employees wear safety toe shoes or boots. See also section 3.17, Personal Protective Equipment (PPE).

d. Fire retardant clothing shall be worn for tasks that present a potential for arc flash, flash fire, or explosion to minimize the effects of arc flash, flash fires and burns from contacting hot equipment and material (see also section 3.5 concerning electrical work PPE).

2.6 Construction Site Safety

a. The contractor shall ensure the safety of all personnel, regardless of organization, while within the boundaries of the worksite, including control of personnel on site, ensuring the use of required PPE, ensuring the observation of any special conditions and restrictions while on site, and establishing when and to whom the site is off limits.

b. The contractor shall, at a minimum, designate one site supervisor and ensure that a site supervisor is on site at all times during construction.

c. If a site supervisor cannot remain on site, they shall designate in their absence an authorized individual with the responsibilities, accountability, and authority of the absent supervisor; if such an individual is not designated all construction work shall be halted until the site supervisor returns.

d. The site supervisor or authorized representative while performing supervisory tasks shall not perform other labor type duties (i.e., he should be supervising and not working as a laborer or operator).

e. The contractor shall permit only designated employees who are qualified by training and/or experience to operate equipment and machinery.

NOTE: A qualified operator is one knowledgeable of the equipment's/machine's operations, operations manual, limitations, restrictions, and safety requirements.

f. The site supervisor shall develop means of communication to disseminate information throughout the worksite (handheld radios, bulletin boards, etc.).

g. The site supervisor shall at all times have a means of communication to contact emergency services.

h. Emergency numbers shall be posted at the worksite in a location where all employees have access.

i. Personnel shall not use cell phones/texting devices while performing work, inspections, testing, system walk downs, or surveying on construction sites.

j. Since the effort necessary for roofing demands full and undivided attention, cell phones shall not be used by any personnel on roof surfaces except for emergency calls.

NOTE: Necessary business calls or replying to pages or telephone calls may be accomplished only from a safe zone at the site.

k. Contractor shall implement policies to encourage employees to submit suggestions or report issues regarding site and facility safety and health to the project assigned safety specialist or by calling the Center Safety Office at (321) 867-SAFE (7233).

l. All contractors shall instruct employees that safety suggestions, violations, or issues can be reported anonymously to their employer or the Center Safety Office without fear of retaliation or retribution.

m. Contractor employees that are performing work in or transitioning through a construction site controlled by another contractor shall comply with the safety and health requirements of that worksite and apply common sense to avoid injuries.

n. Contractor employees working in the vicinity of or transitioning through an area where KSC operations are in progress shall comply with the safety and health requirements and direction of the NASA controlling authority of the area.

NOTE: Workers should be alert to the conditions of the walking surface and immediately inform the appropriate personnel when a hazard is observed.

2.7 Controlled Areas

Posted or controlled areas shall not be entered, nor will the integrity of any installed protective system (e.g., guardrails, safety signs, warning lights, etc.) be rendered inoperable, without proper written approval from the CO and agreement by the facility manager and the Center Safety Office.

2.8 Drinking Water

a. Contractors shall ensure access to potable drinking water sufficient for the number of employees at the job site.

b. Drinking water shall be dispensed into individual paper drinking cups either from a stationary bubbler with guarded orifice or from a fully enclosed sanitary water container.

c. Common drinking cups, dipping water by individual drinking cups, dippers, canteens, etc. shall be prohibited.

d. Where single service cups (disposable/to be used only once) are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

2.9 Evacuation (Facility or Area)

a. The contractor shall assign a point-of-contact (POC) for work conducted inside a facility, prior to starting work.

b. The contractor shall obtain a copy of the facility emergency evacuation procedures from the facility manager, COTR, or NASA Safety representative.

c. The POC shall ensure all contractor employees (including subcontractors) are briefed on evacuation and marshalling areas the first day of work.

d. Should evacuation of any area be necessary for reasons other than tornadoes, contractor employees shall follow the facility evacuation procedures and meet the POC at the marshalling area or at least 200 feet from the hazard.

e. The POC shall account for all employees and report the head count to the on-scene commander as soon as possible.

f. POCs shall notify the on-scene commander immediately if any employee is not accounted for.

g. Contractor Employees shall not return to work inside or within 200 feet of the facility until the on-scene commander gives the "ALL CLEAR".

2.10 First Aid and Medical

a. The contractor shall make provisions for prompt medical attention in case of employee injury prior to starting work.

NOTE 1: Personnel should report an emergency by dialing 911, (321) 867-7911 (cell phone on KSC) or (321) 853-0911 (cell phone on CCAFS) from a cellular phone.

NOTE 2: For non-emergency, walk-in medical care, personnel should report to the KSC Occupational Health Facility (OHF) located at the corner of 2nd St. SE and C Ave. SE during normal office hours (0700 – 1600 hrs). After hours or on weekends, call (321) 867-7911 (the KSC 911 Number). Emergency Medical Services (EMS) personnel will evaluate for first aid or transport to nearest medical facility.

b. All emergency contact telephone numbers shall be posted at the job site in an area accessible and conspicuous to all personnel.

c. Contractor Site supervisors shall:

(1) Ensure employees are aware of their responsibility to report any injury to their supervisor immediately.

(2) Follow the requirements for Accident/Incident (Mishap / Close Call) Reporting.

(3) Ensure any employee that is transported off Center after hours reports to the OHF the next duty day the OHF is open. Compliance with all follow-up visits is required.

(4) Ensure employees are compliant with the restrictions ordered by the physician.

d. First Aid Program

(1) The contractor's first aid program shall be designed to reflect the known and anticipated risks of the specific work environment.

(2) The contractor shall have a person(s) adequately trained to render first aid.

(3) The person trained in first aid shall be present at the worksite any time work is being performed.

(4) First aid training courses shall include specific knowledge and skills instruction for general and workplace hazards.

(5) First aid supplies shall be readily available and in sufficient quantities at the job site.

2.11 Hazard Communications

a. The contractor shall have at each worksite a written hazard communication plan specific to the worksite that is compliant with CFR 1910.1200 describing how labels and other forms of warning, material safety data sheets, and employee information and training will be met.

b. This written Hazard Communication Plan shall be submitted as part of the SSSP.

c. The plan shall describe the contractors approach to providing training to workers (including subcontractors) on the details of the hazard communication program, an explanation of the labeling system used at the worksite, and information on location and access to Material Safety Data Sheets (MSDS).

NOTE: OSHA requires that if employees receive job instructions in a language other than English, then the training and information to be conveyed under the Hazard Communications standard will also need to be conducted in the applicable foreign language.

d. The contractor shall ensure that each container of hazardous chemicals and any secondary container (bottle, tank, vessel, etc.) in the workplace is properly labeled [i.e., Hazardous Materials Identification Sheet (HMIS)], tagged, or marked with the appropriate hazard warnings.

NOTE: Labeling and MSDSs provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.

e. The contractor shall ensure the labels or other forms of warning are legible, in English, and prominently displayed on the container or readily available in the work area throughout each work shift.

f. The contractor shall not remove or deface existing labels on incoming hazardous chemical containers unless the container is immediately relabeled with the required information.

g. The contractor shall submit in hard copy to the CO a copy of every MSDS for any potentially hazardous material brought onsite for use on this contract.

h. The contractor shall provide a complete and accurate list accompanied by the applicable MSDS of all materials and chemicals listed on the Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112(r) of the Clean Air Act that will be stored onsite and/or used in the execution of this contract, regardless of the quantity.

i. This information shall be provided to the CO prior to the time of delivery of the materials and chemicals to the site.

j. This inventory shall be updated and resubmitted to the CO on a monthly basis.

k. All inventory reporting shall be completed on the Chemical Inventory for Construction Projects at Kennedy Space Center, Form (8-313NS).

l. Appropriate labels and MSDS shall be provided for all chemical shipments.

2.12 Heat Stress

a. The contractor's SSSP shall address how to protect employees from heat stress, heat exhaustion, and/or heat stroke.

NOTE: Heat advisory warnings are issued through the KSC Duty Office in the same manner as other weather watches and warnings.

b. The contractor shall ensure employees are trained on the signs and symptoms of heat stress injuries and appropriate actions to take in the case of a heat stress injury.

c. The site supervisor shall ensure all contractor employees on site take breaks as necessary to prevent heat related illnesses.

2.13 Housekeeping

a. Good housekeeping practices shall be observed at all times.

b. Only approved, marked containers shall be used for disposal of wastes in accordance with applicable regulations.

c. During the course of construction, form and scrap lumber with protruding nails and all other debris shall be kept cleared from work areas, passageways, and stairs in and around buildings or other structures.

d. During the course of construction all protruding reinforcing steel, onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement.

e. Combustible scrap and debris shall be removed from work areas at least daily during the course of construction.

f. At the completion of construction, the contractor shall clean up the construction area of all excess construction debris and return to grade level all above surface protrusions which are not permanent fixtures.

2.14 Inspections (Contractor Worksite)

a. The contractor shall perform a daily inspection of the job site, materials, and equipment to identify existing or potential hazards.

b. The inspection shall be accomplished by a Competent Person (General) [see definition in Appendix A, Competent Person (General)] designated by the contractor.

c. The contractor shall document the completion of this inspection at least weekly.

2.15 Inspections (KSC Safety Representatives)

The job site shall be subject to inspection by KSC Safety and Health personnel at any time. KSC construction safety specialists perform site visits of all KSC Construction of Facilities (CoF) project sites.

NOTE: KSC construction safety specialists document site inspections and/or minor safety and health violations/noncompliances on KSC Form 50-17, NASA/KSC Safety – Site Observations Daily Log Construction Contractors. The contractor's site supervisor works with the KSC construction safety specialists, the COTR, and/or CO (depending on severity) to implement corrective action(s). For serious, willful, or repeat findings, a Notice of Safety Violation (NOSV) may be issued. The NOSV requires a formal response from the contractor.

2.16 Job Hazard Analysis (JHA)

The JHA is a technique that focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationship between the worker, the task, the tools, and the work environment. The goal is to identify all uncontrolled hazards then take the steps/actions to eliminate or reduce the hazards to an acceptable risk level. The terms Job Hazard Analysis (JHA), Job Safety Analysis (JSA), and Activity Hazard Analysis (AHA) are synonymous.

a. Prior to the start of work, the contractor shall perform a job hazard analysis of all tasks. The completed JHAs shall be provided to Center Safety Office through the CO as an appendix to the SSSP prior to the start of any onsite work.

b. The JHA shall include the following elements:

(1) Task (Activity) Description: Specify the work to be performed such as operating machinery, equipment, and powered hand tools.

(2) Hazard Description: Using the listed tasks, identify the hazards from the work to be performed (e.g., flying debris, dust, wood chips, or metal shavings getting into the eyes).

(3) Hazard Controls: The preventive measures taken to eliminate or mitigate the hazard to an acceptable risk level [e.g., know and utilize the manufacturer's operating, maintenance, and safety procedures and use personal protective equipment (PPE) as required.]

(4) Reference section 3.5, Electrical Safety, for additional requirements regarding JHAs for energized electrical work.

2.17 Maximum Work Hour Policy

Requirements for the Maximum Work Hour Policy are in KNPR 8715.3, Kennedy Safety Practices Procedural Requirements.

2.18 Pre-task Meetings

a. Prior to the start of each work day, when a task changes during operations, prior to any hazardous task, or prior to any confined space entry, the contractor shall conduct a Pre-Task Meeting and communicate all job related safety issues with all employees involved. Where a task involves a confined space entry, completion of the required Pre-Task Meeting shall be noted on the confined space entry permit.

b. At a minimum, the following topics shall be covered in the Pre-Task Meeting:

(1) Work tasks planned for the day to include sequence and hazard management.

(2) Weather issues that could affect work.

(3) PPE required for the work tasks.

(4) Safety hazard awareness (from JHA).

2.19 Safety Meetings

a. The contractor shall conduct and document weekly safety meetings for all employees at the job site inclusive of subcontractor employees.

b. The weekly safety meeting shall discuss safety and health related issues as well as any incidents (and subsequent corrective actions taken) that have occurred at the site.

c. The first weekly safety meeting shall occur the first work day prior to the start of any tasks.

d. If during performance of the contract, a break of more than five work days occurs, the site supervisor shall conduct a safety meeting the first day back to work.

e. Documentation of safety meetings shall include a short summary of the items covered, the date and location of the meeting, the name and signature of the person conducting the meeting, and a roster of attendees. Documentation of these safety meetings shall be kept at the construction site for review by the assigned safety specialist for the duration of the contract.

2.20 Safety Systems – (Permanently Installed)

a. The contractor shall protect and not invalidate the integrity of any installed safety systems or personnel safety devices (such as firefighting equipment and sensing devices, fire alarm centers, fire water supply, guardrails, safety chains, warning lights, and safety signs) without prior approval from the CO.

b. Prior CO approval shall be obtained when access to device-guarded systems is required.

c. In the event the contractor determines (and CO approves) that it is necessary to temporarily remove or invalidate any personnel safety devices in order to accomplish a task, an alternate means of protection shall be approved and in place prior to removing or invalidating any permanently installed safety devices or equipment.

2.21 Sanitary Conditions and Facilities

a. The contractor shall be responsible for providing temporary restroom facilities at the job site when sanitary facilities are unavailable.

b. One chemical toilet, adequately serviced, for every 15 employees or less shall be required.

c. A hand washing facility shall be provided adjacent to chemical toilet placement locations.

d. A shower facility shall be provided for each ten employees of each gender when showers are required in the performance of work (such as lead abatement).

e. The contractor shall provide change rooms equipped with storage facilities for street clothes and separate storage facilities and/or disposal containers for the protective clothing when employees are required to wear protective clothing.

2.22 Temporary Structures, Trailers, and Work Areas

a. All temporary structures and trailers shall be clearly marked with the contractor's name and an emergency phone number.

b. Trailers shall be pre-approved by the COTR and the facility manager for parking locations.

c. Trailers shall be tied down when stationary for a period in excess of two weeks.

d. A digging permit shall be requested through the project COTR and approved prior to tying down any trailer or temporary structure.

e. All NASA Construction sites with or without temporary structures shall be clearly marked by clear and visible signage with the following information:

(1) Company name of the prime contractor (XXXXXX Construction, Inc).

(2) Prime Contractor Site Supervisor's name and contact phone number.

(3) Prime Contractor Safety Supervisor's name and contact phone number.

(4) NASA KSC Project CO name and contact phone number.

(5) NASA KSC COTR name and phone number.

(6) NASA KSC Safety (321) 867-SAFE.

2.23 Vehicle Operations

The contractor shall adhere to permit requirements, restrictions and conditions for overweight, oversized or slow moving vehicles as identified in contract clause JC-6, Traffic Restrictions and in KNPR 1600.1, KSC Security Procedural Requirements.

NOTE: Movement of oversized or slow moving vehicles is prohibited on KSC roadways between the hours of 0600-0900 and 1500-1800.

CHAPTER 3: SITE SPECIFIC SAFETY AND HEALTH PLAN (Project-Specific Requirements)

NOTE: The SSSP should only contain the parts of Chapter 3 that pertain to the work to be performed as part of the awarded construction project.

3.1 Confined Space Entry

a. Each contractor whose scope of work requires entry into and work in confined spaces shall write and include as an appendix to the project SSSP a Confined Space Entry Program (Plan) that implements the requirements of 29 CFR 1910.146.

b. When the contract requires work in telecommunications manholes, the contractor shall include the process they will use to meet the provisions of CFR 1910.268(o) in their SSSP.

c. The Contractor shall coordinate with the COTR to complete a confined space hazard evaluation request (KSC Form 28-750NS) that identifies hazardous conditions (present or introduced) and entry requirements for all confined spaces, regardless of type or designation.

d. The contractor shall notify and obtain approval from the Power Coordinator (321-867-7300) and from Communications Control (321-867-4141) prior to performing any work in electrical and/or communications manholes.

e. The contractor shall coordinate all confined space entry work with KSC Environmental Health, KSC Fire Services, and any resident government or contractor organization whose employees have access to the worksite, as identified by the CO and/or COTR.

f. Where the contractor will act as a controlling employer with operational control over the permit space during multiple employer entry, the plan shall incorporate procedures to coordinate entry operations (for example, hazardous operations, required PPE, employee training, rescue, emergency services, and all other aspects of the entry) with each entrant's employer.

NOTE: The contractor may perform atmospheric testing or use the government-provided services including environmental health monitoring and consultation support for the testing of atmospheres in confined spaces. To request government-provided atmospheric testing for confined space entry, a minimum 24 hour advance scheduling is required through the Environmental Health work control desk at 867-2400.

g. Standing water shall be pumped out of the confined space prior to any entry check.

h. The confined space permit must be maintained on site and available to contractor and government personnel. A pre-task meeting in accordance with section 2.18, Pre-task Meetings, shall be completed and noted on the approved confined space entry permit.

3.2 Cranes and Lifting Operations

a. All crane and lifting equipment operations and maintenance shall be conducted in accordance with manufacturer's recommendations and appropriate ASME B30 series standard.

b. Only certified (licensed) and trained personnel shall be permitted to operate a mobile crane or other lifting equipment.

c. Operators of mobile cranes or other lifting equipment shall be trained and certified by a recognized certification organization that is authorized to perform this function.

d. Riggers shall be trained and certified.

e. Flagmen shall be trained in applicable crane or lifting equipment operation procedures.

f. Cranes and lifting equipment shall be certified for operational use by the appropriate authorizing agency.

g. Lifting device controls shall be manned by the operator while a load is suspended and/or when the equipment is operational.

h. Personnel shall not perform work or be located under a suspended load at any time.

i. Daily and periodic formal (monthly and annually) equipment inspection shall be conducted, the results documented, and be made available on the job site.

j. Crane inspections shall be performed by a qualified person.

NOTE: A crane qualified person is one who is capable of identifying existing and predictable lifting equipment related hazards in the surroundings or working conditions which are hazardous or dangerous to employees or property and who has authorization to take prompt corrective measures to eliminate them. A crane qualified person has the requisite technical knowledge to competently conduct all required inspections to the applicable standard(s).

k. Each type of inspection shall follow manufacturer's suggestions and include, at a minimum, the areas listed in the appropriate ASME B30 series standard.

l. The contractor shall have a system for documenting crane problems and discrepancies.

m. The crane operator shall review previously identified problems and discrepancies to determine possible impact on the planned activity prior to any operation.

n. The following documentation shall be available at the job site when lifting equipment is operational:

(1) Operator certification.

(2) Equipment certification.

(3) Inspection and load test documentation.

o. Crane load charts shall be located in the crane cab.

p. Cranes shall not be operated without load charts.

q. A hand signal illustration shall be posted at the job site detailing hand signals to be given to crane operators as prescribed by the applicable ASME standard for the type of crane in use.

r. A Pre-Task Briefing shall be performed and documented prior to commencing crane operations that shall include, at a minimum:

(1) What task is to be performed.

(2) How (the methods) the task will be performed.

(3) Where each crew member will be positioned.

(4) What task each crew member will perform.

(5) Who is in charge of the operation.

s. The working area around any lifting operation shall be controlled to limit personnel to include only those persons considered essential to the lifting operation.

t. If the controlled area cannot be maintained, the lifting operation shall be stopped immediately.

u. The site supervisor shall be in overall charge of lifting operation on the job site and shall ensure:

(1) All personnel involved are instructed in the proper positioning, rigging, and moving to be done.

(2) The crane has met all its maintenance, test, and inspection requirements and is to be operated within its rated capacity and the operator is properly certified.

(3) The vicinity of the lift is controlled and the operator remains at the controls the entire time the load is suspended.

(4) The crane operator and signalmen have communications with each other. If communications are lost, the lifting operation shall be immediately stopped.

(5) All personnel within the controlled lifting area are wearing the appropriate personal protective equipment (e.g., hardhat, safety shoes, and gloves) as described in the Safety and Health Plan.

(6) A Pre-Task Briefing was performed and all personnel are knowledgeable of the operation to be performed, tasks to be done, route to be traveled, and safety considerations.

(7) At no time will any part of the crane or load pass within the designated minimum safe approach distance of an electrical power line unless the line is de-energized and visibly grounded on both sides of the area of possible contact.

v. All crane operations shall comply with the NASA/KSC Adverse Weather requirements and this document.

NOTE: When moving cranes, adhere to the crane manufacturers wind limits for both operations and positioning.

w. Crane operations involving critical lifts (as defined in Appendix A of this document) shall have a lift plan submitted for review and acceptance to the CO in consultation with the KSC Lifting Devices and Equipment Manager (LDEM) and Center Safety Office.

x. Cranes shall not be used to hoist employees on a personnel platform unless approved in advance by the CO in consultation with the KSC LDEM and Center Safety Office.

y. Cranes left outdoors shall be secured by the operator when operations are complete. Crane booms of any height shall be lowered during the hours of darkness. If this is not feasible, the crane shall be lit in accordance with Federal Aviation Administration (FAA) regulations.

3.3 Demolition

3.3.1 Engineering Survey

a. The contractor shall have an engineering survey completed by a competent person (general) prior to permitting employees to start demolition operations.

b. The structure shall be examined to determine the condition of the framing, floors, and walls, and possibility of unplanned collapse of any portion of the structure.

c. Any adjacent structure where employees may be exposed shall also be similarly checked.

d. The contractor shall submit this survey to the CO for review.

3.3.2 Demolitions Involving Hazardous Materials

a. When demolition activities involve hazardous materials, such as silica, mold, or toxic substances regulated under 29 CFR 1926.1101 – 1152, an approved plan for the safe handling and containment of those hazardous materials shall be in place prior to the start of demolition (see section 3.11, Hazardous Substances, for additional plan requirements).

b. The plan for handling/containment of all hazardous materials shall be fully compliant with applicable Federal, State of Florida, NASA, and/or other authorized regulatory agencies' current standards.

3.3.3 Continuing Site Inspections

a. Inspections by a competent person (general) shall be made as the work progresses to detect hazards resulting from weakened or deteriorated floors, or walls, or loosened material.

b. No employee shall be permitted to work where such hazards exist until they are corrected by shoring, bracing, or other effective means.

3.3.4 Removing Debris from Elevated Sites

a. Whenever materials are dropped more than 20 feet to any point lying outside the exterior walls of the building, an enclosed chute of wood, or equivalent material, shall be constructed, installed, and used in accordance with 29 CFR 1926.852.

b. The area surrounding the discharge end of a chute shall be securely closed off when operations are not in progress.

c. Any floor opening into which debris is dumped shall be protected by a guardrail approximately 42 inches above the floor or other surface on which personnel stand to dump the material.

d. When debris is dropped through holes in the floor without the use of chutes, the area onto which the material is dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above. Signs warning of the falling materials hazard shall be posted at each level.

e. Debris removal shall not be permitted in this lower area until debris handling ceases above.

f. Where wall openings present a hazard of employees falling through, the opening shall be protected to a height of approximately 42 inches.

g. All floor openings not used as debris drops shall be enclosed with guardrails and toe boards or covered over with material that is properly secured to prevent its movement and sufficient to support the weight of any load which may be imposed.

3.3.5 Personnel Access Points to Demolition Site

a. Employee entrances into multistory structures being demolished shall be completely protected by sidewalk sheds or canopies, or both, providing protection from the face of the building for a minimum of 8 feet. All such canopies shall be at least 2 feet wider than the building entrances or openings 1 foot wider on each side thereof, and shall be capable of sustaining a load of 150 pounds per square foot.

b. Only those stairways, passageways, and ladders designated as means of access to the structure of a building shall be used. Other access ways shall be entirely closed at all times.

c. Walkways or ladders shall be provided to enable employees to safely reach or leave any scaffold or wall.

3.3.6 Additional Demolition Requirements

a. Any structural member being dismembered shall not be overstressed.

b. No workers shall be permitted in any area which can be adversely affected by demolition operations when balling or clamming is being performed. Only those workers required for the performance of the operation shall be permitted in this area.

3.4 Dive Operations (Commercial)

This section applies to diving and related support operations conducted in connection with all types of work and employment.

a. All dive operations shall be accomplished in accordance with 29 CFR 1910.401 through 440.

b. The contractor shall develop, maintain, and make available to each dive team member at the dive location a safe practices manual containing a copy of CFR 1910.420-440 Commercial Dive Operations (OSHA) standard and the employer's policy for implementing the OSHA standard requirements.

c. Each dive team member shall have the experience or training necessary to perform assigned tasks in a safe and healthy manner, including sufficient expertise with applicable tools, knowledge of equipment and systems relevant to assigned tasks and techniques pertaining to the assigned diving mode, diving operations, and emergency procedures.

d. All dive team members shall be trained in cardiopulmonary resuscitation and first aid (American Red Cross standard course or equivalent).

e. Dive team members who are exposed to or control the exposure of others to hyperbaric conditions shall be trained in diving-related physics and physiology.

f. The site superintendent or designated person-in-charge shall be at the dive location in charge of all aspects of the diving operation affecting the safety and health of dive team members. The designated person-in-charge shall have experience and training in the conduct of the assigned diving operation.

g. The contractor shall comply with the following requirements prior to each diving operation (pre-dive):

(1) A list shall be kept at the dive location of the telephone or call numbers of the following: An operational decompression chamber (if not at the dive location); hospitals; available physicians; available means of transportation; and the nearest U.S. Coast Guard Rescue Coordination Center.

(2) First aid kit and supplies appropriate for the diving operation and approved by a physician shall be available at the dive location. An American Red Cross standard first aid handbook or equivalent, and a bag-type manual resuscitator with transparent mask and tubing shall also be available at the dive location.

h. The planning of dive operations shall include an operations hazard analysis that takes into account:

(1) Surface and underwater conditions and hazards.

(2) Breathing gas supply (including reserves).

(3) Thermal protection.

(4) Diving equipment and systems.

(5) Dive team assignments and physical fitness of dive team members (including any impairment known to the employer).

(6) Repetitive dive designation or residual inert gas status of dive team members.

(7) Decompression and treatment procedures (including altitude corrections).

(8) Emergency procedures.

(9) Hazardous activities.

(10) Other activities in the vicinity which are likely to interfere with the diving operation.

i. Prior to commencing dive operations, team members shall be briefed on:

(1) The tasks to be undertaken.

(2) Safety procedures for the diving mode.

(3) Any unusual hazards or environmental conditions likely to affect the safety of the diving operation.

(4) Any modifications to operating procedures necessitated by the specific diving operation.

j. Prior to making individual dive team member assignments, the contractor shall:

(1) Inquire into the dive team member's current state of physical fitness.

(2) Indicate to the dive team member the procedure for reporting physical problems or adverse physiological effects during and after the dive.

k. A standby diver shall be available while a diver is in the water.

l. The breathing gas supply system including reserve breathing gas supplies, masks, helmets, thermal protection, and bell handling mechanism (when appropriate) shall be inspected prior to each dive.

m. When diving from surfaces other than vessels in areas capable of supporting marine traffic, a rigid replica of the international code flag "A" at least one meter in height shall be displayed at the dive location in a manner which allows all-round visibility, and shall be illuminated during night diving operations.

n. During-dive procedures:

(1) A means capable of supporting the diver shall be provided for entering and exiting the water. The means for exiting the water shall extend below the water surface, and a means shall be provided to assist injured divers from the water or into a bell.

(2) An operational two-way voice communication system shall be used during dive operations and to obtain emergency assistance.

o. Decompression, no-decompression, and repetitive tables (as appropriate) shall be at the dive location. A depth-time profile, including when appropriate any breathing gas changes, shall be maintained for each diver during the dive including decompression.

p. Use of electrical tools, equipment or explosives shall be done in accordance with all applicable federal, state, and local regulations.

q. Dive termination and post-dive procedures shall be done in accordance with 29 CFR 1910.422 and 423, respectively.

3.5 Electrical Safety

a. All electrical work shall be performed in accordance with the current edition of the National Electric Code (NEC), National Fire Protection Association (NFPA), OSHA, and contract referenced documents.

b. Contractors performing work on or near any electrical system shall provide a written program for such work as part of its SSSP. The written program shall be consistent with the requirements of 29 CFR 1910.331 through 29 CFR 1910.335; 29 CFR 1910.147 (lockout/tagout); 29 CFR 1926, Subpart K, Electrical; and NFPA 70E, Standard for Electrical Safety in the Workplace.

c. The electrical safety program shall specifically address the NFPA 70E, Article 130 requirements for any energized electrical work to be performed by written work permit only. This shall include applicable hazard analyses and associated approach boundary and PPE determinations.

d. Contractors performing work on or near Electric Power Generation, Transmission, and Distribution (such as Orsino Substation, C-5 Substation, the Emergency Power Plant, and overhead and underground 15 kilovolt (kV) power distribution systems) shall provide a written program for such

work as part of their SSSP that is compliant with the requirements of 29 CFR 1910.269; 29 CFR 1910.332 thorough 29 CFR 1910.334; and ANSI C2 (National Electrical Safety Code).

e. Circuits shall be placed in an electrically safe condition by de-energizing, applying lockout/tagout, and verifying lack of voltage using suitable test equipment prior to grounding or performing any work on electrical conductors or electrical circuits.

NOTE: Exceptions to this requirement are covered in section 3.5.2 Exposure to Energized Parts.

3.5.1 Electrical System Outage Work Permits

a. All necessary outages that affect utility systems, such as electrical, water, fire detection and protection systems, and air handling systems, require an electrical system outage work permit. Work shall be scheduled so as to minimize outages.

b. Request for utility outage permits shall be made in writing to the CO at least 14 working days in advance of the time required.

c. The request shall state the system involved, area involved, approximate time of outage, and the nature of the work.

d. When high and medium voltage circuits and/or equipment are de-energized by KSC's Institutional Services Contractor (ISC), the Contractor shall obtain a work permit (KSC Form 26-4000NS) from the ISC. The Contractor shall lockout / tag-out and verify lack of voltage using suitable test equipment prior to grounding or performing any work on such circuit(s) and/or equipment.

NOTE: Submittal of a contractor's outage request does not constitute automatic approval. Due to the nature of the operations at KSC, the contractor may not know until the day before the requested date if the outage will take place as scheduled. All outages will take place outside normal work hours.

3.5.2 Exposure to Energized Parts

a. Energized parts to which an employee might be exposed shall be placed in an electrically safe work condition before any employee works on or approaches them unless the contractor can demonstrate that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations.

b. If energized parts are not placed in an electrically safe work condition (i.e., due to increased or additional hazards or infeasibility), the work to be performed shall be considered energized electrical work and shall be performed under a written Energized Electrical Work Analysis & Authorization Permit (exception, items c and d below).

c. If there is no increased exposure to electrical burns or explosion due to electrical arcs, it shall be permissible for personnel to work with energized parts that operate at less than 50 volts to ground without de-energizing the parts.

d. Work performed on or near live parts by qualified electrical persons related to tasks (such as testing, troubleshooting, voltage measuring, replacing incandescent/fluorescent light bulbs, etc.) is permitted without an energized electrical work permit, provided appropriate safe work practices and

personal protective equipment are used. Employees exposed to energized electrical circuits for these activities shall wear Electrical Hazard (EH) rated shoes or stand on non-conductive matting in addition to wearing the appropriate PPE.

e. A two-person buddy system shall be used when performing work on or near exposed energized parts.

f. The site supervisor shall conduct an energized work pre-work briefing and document it using the Energized Electrical Work Analysis/Authorization Worksheet (KSC Form 28-1102) prior to starting work.

3.5.3 Energized Electrical Work Analysis & Authorization Permit Contents

An Energized Electrical Work Analysis & Authorization Permit shall include, at a minimum the following information:

a. A description of the circuit and equipment to be worked on and their location.

b. Justification for why the work must be performed in an energized condition.

c. A description of the safe work practices to be employed.

d. Results of the shock hazard analysis and determination of shock protection boundaries.

e. Results of the flash hazard analysis and determination of flash protection boundaries.

NOTE: The Government will provide available information on applied system voltage, upstream circuit protective device settings, cabling distances and sizes, and available fault current as required to support the shock hazard and flash hazard analyses.

f. The personal protective equipment to safely perform the assigned task.

g. Means employed to restrict the access of unqualified persons from the work area.

h. Evidence of completion of a job briefing, including a discussion of job-specific hazards.

i. Energized work approval, with signatures of authorizing or responsible Contractor management personnel (superintendent, safety officer, owner, etc.), and concurrence by the COTR.

i. The written electrical safety program shall include JHAs covering all anticipated or known work to be performed in hazardous locations or on or near energized parts including "routine" tasks not requiring an energized work permit by NFPA 70E. Additional JHAs shall be submitted during the course of the work as required by the COTR. Each JHA shall be specific to a particular task and its associated hazards (taking into account voltage, short circuit, and clearing time levels) and shall at a minimum address the following areas and contain the following elements:

3.5.3.1 Areas

a. Power switching or operating electrical equipment.

b. Voltage checks to determine equipment is de-energized (usually associated with an outage). Where systems are de-energized by personnel other than those employed by the Contractor, the

Contractor shall be responsible for application of individual lockout / tag-out and verifying lack of voltage while wearing the proper PPE and utilizing proper instruments.

c. Voltage/current checks or troubleshooting.

d. Energized equipment access.

e. Hot work such as breaker racking, fuse replacement, etc.

f. Manhole, vault, or equipment entry with energized cables present. Approximately 10-weeks prior to planned manhole entries, the Contractor's qualified safety professional shall coordinate with the COTR to complete a confined space hazard assessment (KSC Form 28-750NS) in accordance with KNPR 1840.19 for each task requiring a confined space entry permit.

g. Means employed to restrict the access of unqualified persons from the work area.

h. Evidence of completion of a job briefing, including a discussion of any job-specific hazards.

i. Energized work approval, with signatures of authorizing or responsible Contractor management personnel (superintendent, safety officer, owner, etc.), and concurrence by the COTR.

3.5.3.2 Elements

a. Power switching or operating electrical equipment.

b. Date of the analysis.

c. Description of the activity.

d. General work steps.

e. Potential hazards for each step.

f. Controls required for each hazard (PPE, lockout / tag-out, administrative, etc.)

g. Detailed list of all PPE, special tools, and safety equipment required including required calibrations, certifications, and inspections.

h. List of all training provided for qualified personnel. A separate list of all qualified personnel shall also be provided.

i. Lighting survey to ensure adequate lighting is available for the task, particularly for spaces not normally illuminated such as vaults and manholes.

3.5.4 Working in Close Proximity to Energized Parts

a. If the exposed parts are not de-energized, additional safety-related work practices shall be implemented to protect employees who may be exposed to the electrical hazards.

b. Such work practices shall protect employees against direct contact with energized circuit part with any portion of the body or indirectly through some other conductive object.

c. Work practices shall be suitable for the conditions under which the work is to be performed and for the voltage level of the exposed electric conductors or circuit parts.

3.5.5 Shock Hazard Analyses

a. A shock hazard analysis shall be performed by a qualified electrical person to determine voltage exposure, boundary requirements, and the personal protective equipment necessary in order to minimize the possibility of electric shock.

b. Results of the shock hazard analysis shall be provided to the COTR and the Center Safety Office for review.

3.5.6 Flash Hazard Analyses and Arc Flash PPE

a. A flash hazard analysis shall be completed by a qualified electrical person to protect personnel from arc flash injury. Results of the arc flash analysis shall be provided to the COTR and the Center Safety Office for review.

b. The analysis shall determine the flash protection boundary and the personal protective equipment that personnel within the flash protection boundary shall use.

c. Personnel working with, on, or around energized circuits shall wear appropriate arc flash personal protective equipment as required by NFPA Code 70E.

3.5.7 Testing of Electrical Parts and Equipment Prior to Employee Exposure

a. A qualified electrical person shall use test equipment to determine the circuit elements and electrical parts of equipment to which employees will be exposed.

b. The qualified person shall also verify that the circuit elements and equipment parts are de-energized after the circuit(s) is locked and tagged out.

c. The test shall determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage back feed even though specific parts of the circuit have been de-energized and presumed to be safe.

d. The test equipment shall be checked for proper operation immediately before and after the absence of voltage check on an energized circuit.

e. Prior to reenergizing equipment, a qualified electrical person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices were removed so that the circuits and equipment can be safely re-energized.

3.5.8 Temporary Power/Wiring

a. Ground fault circuit interrupters (GFCIs) shall be utilized on all temporary power. All extension cords shall be rated for heavy duty and used in conjunction with GFCIs.

b. Temporary electrical wiring required during construction and major repairs shall be installed by a qualified electrician and protected with circuit breaker or fuses.

c. Temporary wiring and extension cords shall be protected against mechanical damage and, when damaged or spliced, removed from service.

3.6 Equipment

a. The contractor shall submit a list of all specialty or heavy equipment (contractor owned, leased, rented, etc.) proposed for use on the contract, including but not limited to forklifts, lulls, cranes, earth moving equipment, and other power industrial trucks.

b. Operators of equipment shall be trained to use the equipment.

c. Documentation of training shall be submitted in accordance with the training and applicable equipment section of this document.

d. The contractor shall perform daily equipment inspections and as recommended by the manufacturer.

e. The use of any tool, material, or equipment which is not in compliance with applicable regulatory requirements shall not be used.

f. Defective equipment shall be removed from service and/or tagged out using KSC Form 20-165 or a contractor equivalent tag to render them inoperable.

3.7 Excavation

a. All excavation work shall conform to the requirements set forth in 29 CFR 1926 Subpart P.

b. Dig Permits

(1) Anytime digging is performed, for any reason and to any depth, an approved Excavation Notification Worksheet, Dig Permit, (KSC Form 28-812NS) is required.

(2) Permits are obtained through the project COTR and shall remain on site for review for the duration of the permit.

(3) Any deviations from the approved excavation shall be approved in advance.

(4) Adherence to excavation permit category and conditions shall be mandatory.

c. Special Requirements to Hand-Dig Excavations in Specific Situations

(1) The contractor shall <u>hand dig all excavations</u> within 24 inches in all directions of a marked located utility line.

(2) The contractor shall also hand dig a pilot trench when called for on the Dig Permit for all underground utility work along the centerline of new trenches and down to the bottom elevation of the new utility.

(3) The pilot trench shall be carefully opened to determine the existence and location, if any, of active underground utilities which shall be protected and kept in service.

<u>NOTE</u>: Machine excavation may proceed only after it is determined that all existing utilities have been identified and protected.

d. Protection of Personnel During Excavations

(1) Adequate protection shall be provided to protect employees from loose rock or soil that could pose a hazard by falling or rolling from an excavated face.

(2) Material and equipment shall be kept at least two feet from the edge of excavations.

(3) Daily inspections of excavations, the adjacent areas, and protective systems shall be made by a competent person (excavation) for evidence of a situation that could result in possible cave ins, indications of protective systems failure , hazardous atmosphere, or other hazardous conditions.

NOTE 1: A Competent Person in Excavation is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees and who has authorization to take prompt corrective measures to eliminate them. The competent person is specifically trained in, and is knowledgeable about, soil analysis, the use of protective systems, and the requirements of the excavation standard.

NOTE 2: A qualified person in excavation is a person or engineer must have more technical expertise, but would not necessarily have expertise in hazard recognition or the authority to correct identified hazards.

(4) A record of this inspection shall be maintained at the job site.

NOTE: The contractor may use the Excavation Checklist (KSC Form 28-814) for this purpose.

(5) A stairway, ladder, ramp, or other safe means of egress shall be located in trench excavations that are 4 feet or more in depth, and shall require no more than 25 feet of lateral travel.

(6) All excavations 5 feet or greater in depth shall have adequate shoring or be sloped at an angle not steeper than 1.5 to 1 vertical.

NOTE: Soil on KSC is classified as type C.

e. If any obstructions, interferences, or unforeseen conditions are encountered (i.e., concrete thrust blocks, direct buried cable below grade, unidentified utilities, etc.) all digging shall cease immediately, and the Project Construction Inspector and/or COTR shall be notified.

f. A thrust block is a configured piece of concrete located underground at water and sewer utility piping to prevent movement from line pressure fluctuations. The contractor shall not remove any buried concrete without prior approval from the CO when excavating soil .

3.8 Fall Protection

a. Contractors shall submit a Site-Specific Fall Protection Plan that addresses project-specific fall hazards.

b. This plan shall address the contractor's approach to implementing the requirements of KNPR 8715.3, Kennedy Safety Practices Procedural Requirements, and applicable OSHA regulations.

c. This plan shall become a part of the contractor's overall project SSSP.

3.9 Fire Protection and Prevention

Contractors are responsible for on-site fire prevention and protection while in the process of executing contracts on Kennedy Space Center and satellite installations. Fire prevention and protection policies contained within have been established in accordance with NASA directives, OSHA Code of Federal Regulations, and NFPA Fire Codes.

The contractor shall brief their employees and subcontractors on fire prevention and protection responsibilities.

NOTE: Construction sites will be inspected periodically by KSC fire inspectors to assure compliance with fire prevention measures. The CO will be notified of any areas found to be substandard.

3.9.1 Handling and Storage of Flammable Liquids

a. Elevated fuel storage tanks shall be:

(1) Grounded/Bonded.

(2) Free of leaks (hose, nozzles, and valves).

(3) Equipped with "No Smoking within 50 feet" signs.

(4) Located at least 50 feet from buildings and combustibles.

(5) Posted with proper placards/labels.

b. Small containers of fuel shall be STORED in Underwriters Laboratories or Factory Mutual and NFPA 30 approved (listed) Flammable Storage Cabinets labeled "Flammable - Keep Fire Away."

c. Flammables and any other volatile material shall not be stored or left overnight in any building, facility, or structure. They must be removed from worksites at the end of each day and stored in an area previously approved by the CO and the KSC Fire Prevention Office, or they must be removed from the installation.

d. All hazardous material spills shall be reported immediately by calling 911, (321) 867-7911 (cell phone on KSC) or (321) 853-0911 (cell phone on CCAFS).

e. Stored containers shall be sealed or covered. Leaking containers will be removed from the storage area.

f. Wiping rags, drop cloths, paint brushes, and rollers shall be stored in covered metal containers at the end of each working day.

g. All sources of ignition shall be eliminated and the area well ventilated when floor finishes containing combustible or flammable liquids are used.

3.9.2 Smoking

a. The contractor shall not allow smoking in any facilities or on roofs of facilities on KSC.

b. The contractor shall allow smoking only in designated areas that are approved by the KSC Fire Prevention Section.

c. Designated smoking areas shall have conspicuous and legible signs posted designating area, and an adequate number of metal containers with self-closing cover devices shall be readily available for disposal of smoking material.

d. Each metal container shall have stenciled on it "SMOKING MATERIAL ONLY."

e. All cigarette lighting items (i.e. lighters, matches, etc.) shall be surrendered to the Gate Security Guard or at entry control points in areas where smoking or flame producing devices are forbidden.

f. At the end of every shift of duty day, all collected smoking material shall be completely extinguished, saturated with water, and removed for disposal in dumpsters.

3.9.3 Fuel Powered Equipment

a. Fuel powered equipment (such as air compressors, hoists, pumps, etc.) shall be located so that exhaust stacks are well away from combustible material and facility air intakes.

b. Refueling shall not be conducted while engine is running or hot.

c. Equipment shall be free of fuel and oil leaks.

d. Fuel powered equipment shall not be used inside buildings or facilities or under facility overhangs.

3.9.4 Fire Hydrants Adjacent to Construction Sites

a. Fire hydrants shall only be used with the approval of the KSC Assistant Chief of Fire Protection at 321-861-4684.

b. Fire hydrants shall not be blocked. A minimum clearance of 25 feet shall be maintained at all times.

c. The contractor shall place a three-way valve on hydrants used to support construction activities (after approval has been given).

d. At the end of the workday, hoses shall be disconnected from the fire hydrant and the caps replaced.

e. Fire hydrants shall only be opened with a hydrant wrench.

3.9.5 Fire Extinguishers

a. Fire Extinguishers (compliant with NFPA 10) shall be provided and maintained by the contractor for use on the job site.

b. A fire extinguisher belonging to a facility shall not be considered adequate fire protection in lieu of a contractor provided fire extinguisher for all hot work operations.

c. Fire extinguishers and other firefighting equipment shall be visible and accessible at all times.

d. Contractor personnel shall be trained on classification of fires, fire extinguishers, and their uses.

3.9.6 General

a. The contractor shall not tamper with, disturb, or modify the fire alarm detection and suppression systems unless official contract work is to be performed on these systems.

b. Any road or access to facilities that will be blocked due to construction or digging shall be reported to the ISC Consolidated Control Center (867-7627) at least 24 hours before actual work begins.

c. The use of temporary heaters for personnel warmth shall be coordinated with the Fire Inspector prior to use and shall comply with the National Fire Codes.

d. Portable fire extinguishers and fire detection/suppression devices shall be kept clear and unobstructed at all times.

NOTE: The KSC Fire Prevention Office is available for assistance in any matters pertaining to good fire safety practices. They can be reached at 861-4684 Monday through Friday from 0700 to 1530 hours. After 1500 hours, and on weekends, for questions about fire safety call 861-8718 or 867-4103.

3.10 Hand and Power Tools

a. All portable power tools, whether company-furnished or employee-owned, shall be maintained in a safe condition and shall meet all applicable ANSI and/or OSHA Standards (29CFR1926 Subpart I) for design and use.

b. Tool guards shall be in place and functional at all times when in use.

c. All electric tools shall be double insulated or grounded.

d. Extension cords used for portable power tools shall be ground fault (GFCI) protected unless the cord is plugged into a ground fault protected outlet.

e. Power tools shall be disconnected at the end of each workday.

f. Powder actuated tools shall only be operated by employees who have been trained in its operation and verified by the Site supervisor(s) as trained.

g. There shall be a standard means of identifying the powder levels of loads used.

h. Requirements for Tools Using Loads (Ammunition)

(1) Loads (ammunition) shall be stored in locked metal containers (limited to 1000 rounds unless stored in an approved explosive storage area).

(2) Only the quantity necessary for the specific job shall be taken to the job site.

(3) Loads (as with all explosive materials) shall be kept away from heat sources.

(4) Loads shall remain in the personal control of the authorized operator.

(5) Loads shall never be left unattended at the job site.

(6) Each authorized operator shall keep positive control on all loads until unused portions are returned to the locked containers in the storage area.

3.11 Hazardous Substances

3.11.1 Asbestos Containing Material (ACM):

a. The contractor shall provide a written Asbestos Management and Abatement Implementation plan, approved by the CO, prior to the commencement of work, as an attachment to the SSSP.

b. The plan shall be in compliance with the requirements of 29CFR1926.1101, the Code of Federal Regulations (CFR) National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 61 Subpart M, the Florida Administrative Code (FAC) requirements FAC 62-257, and the Florida Statute (F.S.) 469 Asbestos Abatement, and F.S. 376.60 Asbestos Removal Program Inspection and Notification Fee.

c. NASA/KSC will provide information regarding the location and quantity of known ACM in the facilities in which work will be performed. The contractor shall notify the CO if any undocumented ACM or suspected ACM is encountered.

d. The contractor shall coordinate any asbestos management and abatement with designated KSC Environmental Health and Fire Services personnel and any resident government or contractor organization whose employees may have access to the work location.

3.11.1.1 Placards, Signs, and Other Notices

a. Placards, signs, or other notices shall be posted at the perimeter of regulated areas.

b. Posting shall be in a location visible to other employees who work in the vicinity of the abatement operation.

c. In addition to posting requirements identified in 29 CFR 1926.1101, the notice shall identify the type of work in progress, Project Identification Number, and provide the name and phone number of the COTR for project information and for notification in the event of an emergency.

3.11.1.2 Asbestos Abatement Requirements

a. Asbestos materials must be handled, packaged, labeled, and disposed of per EPA 40 CFR 61 and OSHA Construction Standards 29 CFR 1926.1101.

b. Asbestos abatement contractors shall be licensed by the State of Florida in accordance with Florida Statute Chapter 469; Asbestos Abatement. This Florida Statute Chapter requires that:

(1) No person shall conduct an asbestos survey, develop an operation and maintenance plan, or monitor and evaluate asbestos abatement unless trained and licensed as an asbestos consultant in accordance with this chapter.

NOTE: Any person engaged in the business of asbestos surveys prior to October 1, 1987, who has been certified by the Department of Labor and Employment Security as a certified asbestos surveyor, and who has complied with the training requirements of s. 469.013(1)(b), may provide survey services as described in s. 255.553(1), (2), and (3).

(2) No person shall be permitted to prepare asbestos abatement specifications unless trained and licensed as an asbestos consultant in accordance with this chapter.

c. If more than 260 linear feet, 160 square feet, or 35 cubic feet of ACM is to be removed, or any load-bearing structure is to be demolished regardless of whether or not asbestos is present, the contractor shall submit to the Florida Department of Environmental Protection (FDEP) a "Notice of Asbestos Renovation and Demolition Form" [DEP Form 62-257.900(1)].

3.11.1.3 Project Monitoring

a. Each asbestos abatement contractor is responsible for ensuring project monitoring in accordance with the applicable requirements of 29 CFR 1926.1101.

b. Monitoring records shall be maintained at the worksite and shall be available for government inspection.

3.11.1.4 Pre-Work Asbestos Abatement Inspection

a. Asbestos abatement work shall not begin until the government conducts a pre-abatement workplace inspection involving the establishment of regulated areas related to asbestos abatement.

b. Pre-work inspections shall be requested at least 24 hours in advance by contacting the Medical and Environmental Health Services duty office at 867-2400.

c. Abatement work shall be permitted to proceed upon successful completion of the inspection (KSC Form 28-1230; Pre-work Inspection).

3.11.1.5 Final Asbestos Abatement Clearance Inspection

a. A Final Asbestos Abatement Clearance Inspection prior to the opening of a regulated area for normal occupancy following an asbestos abatement activity. The contractor shall request this inspection at least 24 hours in advance by contacting the Medical and Environmental Health (EH) Services duty office at 867-2400.

b. A regulated area shall not be opened until a NASA EH Office representative successfully completes a Final Clearance Inspection (KSC Form 28-1231; Post Work Inspection).

3.11.2 Steel Structure Maintenance (Abrasive Blasting / Surface Preparation / Spray Painting)

a. When performing work involving toxic metals regulated under 29 CFR 1926. 1101 – 1152, the contractor shall provide a written Toxic Metals Safety and Health Plan as an attachment to the SSSP.

b. The Toxic Metals Safety and Health Plan shall:

(1) Be approved by the CO prior to the commencement of work.

(2) Describe the contractors approach to implementing the requirements of the applicable OSHA standards at the job site, including proposed engineering and administrative controls and selection of PPE and respiratory protection equipment.

(3) Address the contractor's approach to contain and control dusts, fumes, and other airborne or waterborne emissions from the worksite.

(4) Address monitoring activities during the work (emission control measures).

c. Prior to the commencement of any spray painting or abrasive blasting operations, the contractor shall take precautions to protect all personnel and government hardware from contamination or damage during sandblasting and painting operations.

<u>NOTE</u>: The CO is the approving authority for the method of protection.

d. Power tools used for surface preparation shall be equipped with dust collection shrouds or other attachments exhausted through a high efficiency particulate air (HEPA) filtered vacuum system.

e. At no time shall workers be allowed to leave the worksite wearing contaminated clothing or equipment (e.g., shoes, coveralls, or head gear). All contaminated clothing and equipment shall be prevented from reaching the worker's home or vehicle.

f. When required under 29 CFR 1926.1101 – 1152, the contractor shall provide a clean change area equipped with storage facilities for street clothes and a separate area with facilities for the removal and storage of contaminated work clothing and equipment.

g. Project Monitoring

(1) Each contractor performing regulated work is responsible for ensuring project monitoring in accordance with the applicable requirements of 29 CFR 1926.62 and 1926.1101 – 1152.

(2) Monitoring records shall be maintained at the worksite and shall be available for government inspection.

h. Pre-work Inspection

(1) Where work requires the establishment of a regulated area, work may not begin until the government conducts a pre-work inspection of the regulated area and any associated containments related to the work.

(2) Pre-work inspection shall be requested at least 24 hours advance and may be scheduled by contacting the Medical and Environmental Health Services duty office at 867-2400.

3.11.3 Silica

Crystalline silica, also called free silica, is an odorless crystalline solid that is found as a dusty air contaminant in many industrial surface materials and processes. It is the cause of the lung disease silicosis. Silica dust consists of solid particles generated by work processes such as concrete saw cutting, grinding, mixing, drilling, and crushing. It may also become respirable when disturbing materials such as ceramic tile, rock, CMU, roofing, or similar materials.

a. When work includes concrete cutting, crushing, or other operations that mechanically abrade concrete and mortar, the SSSP shall address the contractors approach use of engineering and work practice controls and/or use of respiratory protection to prevent employee exposure to silica dust.

b. Each contractor shall ensure project monitoring to demonstrate exposure compliance with the requirements of 29 CFR 1926.55, Appendix A.

c. Monitoring records shall be maintained at the worksite and be available for government inspection.

d. The contractor shall establish a controlled work area whenever unprotected personnel may be exposed to airborne silica dust that can reasonably be expected to be in excess of applicable exposure limits.

e. The controlled work area shall have warning signs that read:

WARNING
CRYSTALLINE SILICA WORK AREA
RESPIRATORY PROTECTION REQUIRED
NO SMOKING, DRINKING OR EATING

3.12 Hearing Conservation

a. When work includes employee exposure that exceeds the limits in the tables below, the SSSP shall address the contractors approach to complying with the requirements of 29 CFR 1926.52.

b. Employee noise exposures shall be managed through implementation of engineering, work practice, and/or PPE to the following exposure limits:

DURATION		EXPOSURE LEVEL[2]
(hours)	(minutes)	dBA
16	960	82
8	480	85
4	240	88
2	120	91
1	60	94
0.5	30	97
0.25	15	100
0.125 or less	7.5 or less	103

TABLE 3-1: NOISE EXPOSURE LIMITS[1]

[1] Using:

Exchange Rate = 3 dB

Lower Threshold = 80 dB,

$T=480/2^{(L-85)/3}$ where T=time in min. and L=exposure level

Meter set to slow response

[2] The exposure noted for each sound level for the duration noted is equivalent to 100% of the allowed noise dose. The Action Level is any exposure equivalent to 50% of the exposure duration in this Table.

Sound Level Decibels (dB)*	PERMITTED NUMBER OF IMPULSES OR IMPACTS PER DAY (imp/day)
>130	none
130	100
120	1,000
110	10,000

Decibels peak sound pressure level measured with a Type I/II sound level meter with peak hold feature using Z, C-weighting, or linear scale at fast response.

TABLE 3-2: NOISE EXPOSURE LIMITS FOR IMPACT OR IMPULSIVE NOISE

c. Hearing Protection Devices

(1) Earmuffs and/or earplugs shall be provided in accordance with 29 CFR 1910.95. Such equipment shall be issued for the exclusive use of each employee and shall not be traded or shared.

(2) Personnel shall wear hearing protection whenever engineering and administrative controls do not reduce employee noise exposure below the Action Level.

(3) All persons working within a posted hazardous noise area, without regard to their exposure duration, shall wear hearing protection when noise is present.

(4) All employees operating equipment with sound levels exceeding levels exceeding 85 decibels (acoustic) (dBA) shall use hearing protection.

(5) Hearing protectors shall attenuate the employee's noise exposure to a level below the noise exposure limit of 85 dBA 8-hr time weighted average (TWA).

(6) A combination of both earmuffs and plugs shall be used where noise levels equal or exceed 100 dBA 8-hr TWA and any exposure equal to or greater than 105 dBA.

d. The contractor shall affix appropriate warning signs on the perimeter and control area entry point for workers and surrounding area employees who may pass near the worksite when noise levels reach the action level greater than 82 dBA .

e. Warning signs and decals shall comply with the requirements of 29 CFR 1910.145, "Specifications for accident prevention signs and tags."

3.13 Hot Work Permits

Hot work permit requirements applicable to contractors are contained in KNPR 8715.3, Kennedy Safety Practices Procedural Requirements. In addition to these requirements, the following also apply.

a. A KSC Hot Work Permit(s) shall be obtained from Kennedy Fire Services prior to any:

(1) Hot work for roof construction or repair using a "torch down" method (KSC Form 2-270).

(2) Hot work for demolition, modification or new construction that includes welding, cutting, burning, open flame and heat producing operations, soldering, heat sealing, or any spark producing operation (i.e., grinding) (KSC Form 2-271).

(3) Hot work for roof construction or repair using "tar kettle" operations (KSC Form 2-272).

b. The COTR shall facilitate obtaining the hot work permit. The contractor shall comply with all requirements identified on the hot work permit.

NOTE: The Fire Inspector who issues the permit will perform an onsite inspection and briefing prior to issuing the permit and will inspect the site periodically to assure hot work requirements are being met and prior to any permit renewal.

c. The contractor shall comply with all requirements identified on the permit and have the permit posted in a visible and accessible area on the job site to employees and inspectors for the duration of operations it was issued for.

d. All combustible material shall be cleared from the hot work area. Fire resistant guards, curtains, or shields shall be used where appropriate.

e. All combustibles (trash, debris, wood, etc.) shall be removed daily.

f. All flammable liquids and propane cylinders shall be removed from roofs at the end of each work day.

g. Flammable gas containers shall be of the approved safety type with spark arresting screen in filler neck, cap, and vent cap intact and an attached HMIS label with correct information.

h. The fire watch (where applicable by permit) shall be familiar with fire watch duties and shall be trained to operate the approved fire extinguishers.

i. A fire watch shall monitor all areas where hot work has been performed for the minimum time specified in the permit after hot work is stopped. This includes breaks, lunch, and end of shift.

j. The permit will identify the type and number of fire extinguishers required for the type of work and size of the area of work being performed.

3.14 Industrial Hygiene

a The contractor shall comply with all applicable OSHA standards and KNPR 1840.19, KSC Industrial Hygiene Program.

b. The contractor shall provide employees with an environment in which occupational health hazards are identified, evaluated, and eliminated or controlled in such a manner that personnel do not suffer adverse health effects as a result of their employment.

c. Additionally, the contractor shall:

(1) Ensure workplace inspections are conducted and operations/procedures are reviewed to identify hazardous materials and physical agents.

(2) Ensure MSDS for materials used in the workplace are reviewed to identify health hazards, symptoms of exposure, and requirements for safe use of the material.

(3) Ensure written procedures are in place for operations that require use of hazardous materials and physical agents. Written procedures must identify the hazards and include instruction on use of required engineering and work practice controls and required PPE.

(4) Ensure their employees are aware of hazardous materials and physical agents in the work area, understand the requirements for safe work with these materials and agents, and know what actions to take in an emergency (e.g., chemical spill or release).

3.15 Ladders and Stairways

3.15.1 Ladders

a. The contractor shall ensure that each employee using ladders is trained on recognizing the fall hazards, proper placement, use and construction of, maximum intended load, and the standards of 29 CFR 1926.1052 and 1053, as applicable.

b. The contractor shall inspect ladders daily and prior to each use and any found to have structural defects shall be "tagged out" and remove from the job site.

c. Employees working on ladders shall:

(1) Maintain three points of contact with the ladder at all times (i.e., one hand and two feet, two hands and one foot, etc).

(2) Maintain the stability of the ladder by avoiding overreaching.

(3) Keep the belt buckle or the centerline of the body between the rails.

(4) Ensure the balance of the ladder by refraining from placing one foot on an adjacent surface while the other foot is on the ladder.

(5) Ensure material, equipment, and tools are not carried by hand up or down a ladder.

d. When selecting ladders, the job application shall always be considered, (e.g., use fiberglass ladders for electrical work, Type I ladders for heavy duty work, etc).

e. The contractor shall ensure all ladders, to include job made ladders, are compliant with 29 CFR 1926.1053.

f. Stepladders shall be used in the fully opened and locked position; personnel shall not stand, sit, or work on or above the last two steps from the top of a stepladder.

3.15.2 Stairs

a. Stairs shall be provided for access to office trailers or other transportable work locations.

b. Stairs shall be installed at angles to the horizontal of between 30 and 50 degrees.

c. Riser height and tread width shall be uniform throughout any flight of stairs including any foundation structure used as one or more treads of the stairs.

d. All treads shall be slip resistant and the nosing shall be of non slip finish.

e. All parts shall be free of hazardous projections such as protruding nails.

f. Stairs with 4 or more risers or more than 30 inches in height shall be equipped with at least 1 handrail and 1 stair rail system along each unprotected side or edge.

g. Handrails and top rails shall be capable of withstanding a force of 200 pounds in any downward or outward direction along the top edge.

h. Mid-rails, screens, mesh, or equivalent structural members shall be provided between the top rail and the stairway steps.

i. Stairway platforms shall be no less than the width of a stairway and a minimum of 30 inches in length measured in the direction of travel.

j. Standard railings and mid-rails shall be provided on the open sides of all exposed stairways and stair platforms.

k. Handrails and mid-rails shall be provided on at least one side of closed stairways preferably on the right side descending.

3.16 Lockout / Tagout (Control of Hazardous Energy)

Requirements for Lockout/Tagout to be addressed in the Site Specific Safety and Health Plan are in KNPR 8715.3, Kennedy Safety Practices Procedural Requirements.

3.17 Personal Protective Equipment (PPE)

Personal Protective Equipment requirements applicable to contractors are contained in KNPR 8715.3, Kennedy Safety Practices Procedural Requirements. In addition to these requirements, the following also apply.

a. The contractor shall take all necessary precautions to protect employees and shall provide at contractor expense any personnel protective devices and safety equipment required.

b. The contractor shall ensure that any PPE required (including employee-owned PPE) is provided, used, and maintained in a compliant condition.

c. Personal Protective Equipment shall be stored in a manner to prevent PPE from damage, dust, sunlight, chemical contamination, or extreme temperatures.

d. The contractor shall document that all employees have received and understood the PPE training provided.

e. Contractor employees shall wear approved hard hats as required by the SSSP.

(1) ANSI Z89.1 Class G or E hardhats shall be used.

(2) ANSI Z89.1 Class C hardhats shall not be used on construction sites at KSC.

f. Approved industrial type safety glasses with side shields meeting the requirements of ANSI Z87.1 shall be worn by contractor personnel if eye injuries may result from the task being performed.

g. When there is a potential crush hazard to the feet, safety type shoes shall be worn.

NOTE: It is highly recommended that all employees wear safety-toed shoes or boots. Safety toe work shoes may be required depending on the type of work being performed.

h. Fire retardant clothing shall be worn for designated tasks that present a potential for arc flash, flash fire, or explosion.

3.18 Process Safety Management

a. Contractors working in areas covered by the OSHA Process Safety Management (PSM) Standard shall schedule an employee awareness briefing on PSM through the CO and ensure all employees attend prior to starting work.

b. The contractor shall ensure all employees are informed of the known potential fire, explosion, or toxic release hazards associated with a facility in which the contractor is performing work prior to starting work.

c. All contractor employees shall ensure all employees are briefed on the applicable provisions of the facility emergency action plan by conducting a facility safety briefing prior to commencement of work.

d. The contractor shall ensure that any new employees brought to the job site receive facility safety training prior to entering process areas.

e. The contractor shall ensure that all subcontractor employees follow the safety rules of the facility including all safe work practices.

f. The contractor shall inform the project CO, COTR, and assigned Safety Specialist of any unique hazards to the facility presented by the contractor's work, or of facility hazards found during the contractor's work.

3.19 Radiation Protection

a. Radiation Protection requirements shall apply if the contract involves the use of ionizing or non-ionizing radiation producing equipment, devices, materials, or operations such as radiographic projectors, lasers, radio frequency (RF)/microwave transmitters, X-ray fluorescence (XRF) detection systems, or radioactive materials.

b. The contractor shall provide physical restraining barriers to protect surrounding area personnel from the emission of any radiation (e.g., weld testing, weld x-rays, etc.), preclude access to restricted areas by unauthorized personnel, and post the appropriate radiation hazard warning signs.

c. The contractor shall comply with KNPR 1860.1, KSC Ionizing Radiation Protection Program, KNPR 1860.2, KSC Non-Ionizing Radiation Protection Program, and applicable Federal, state, and local regulations for these types of activities performed.

3.20 Respiratory Protection

3.20.1 Respiratory Protection Plan

a. This section shall apply to all contracts involving asbestos abatement, abrasive blasting, painting, and other work where hazardous atmospheres can be anticipated.

b. Contractors whose work requires the use of respiratory protection PPE shall provide a written program for such work as part of its Site Specific Safety Plan.

c. The plan shall describe written policies, plans, and procedures and meet the requirement of a site-specific respiratory protection plan described in 29 CFR 1910.134, Respiratory Protection, and shall list the respiratory protection PPE to be used in completion of the contracted work and the basis for the selection of the respiratory protection PPE.

d. Respiratory protection plans shall be reviewed and approved by the NASA Industrial Hygiene Office prior to the commencement of any work.

e. The respiratory protection plan shall be maintained by the contractor at the worksite for the duration of the contracted work.

3.20.2 Project Monitoring

a. Each contractor performing work requiring the use of respiratory protection shall ensure project monitoring occurs in accordance with the applicable requirements of 29 CFR 1926.1000 to demonstrate the proper selection of respiratory PPE.

b. Monitoring records shall be maintained at the worksite and shall be available for government inspection.

3.20.3 Breathing Air

a. The contractor shall take precautions to ensure that connectors used in contractor-supplied breathing air systems are incompatible with connectors present on either KSC gas systems or on contractor supplied systems that are used to supply non-respirable gases.

NOTE: KSC-STD-Z0008, Standard for Design of Ground Life Support Systems and Equipment, establishes requirements for connectors to be used in KSC facility breathing air and non-respirable gas systems. Facility breathing air systems located at KSC/CCAFS are to use a Hansen 3/8 inch quick disconnect as a breathing air distribution interface. KSC facility non-respirable gas systems are to use ¼ inch quick disconnects for gas distribution interfaces. Although most facility systems were designed in accordance with this standard, there are nonconforming locations at KSC.

b. The Contractor shall be permitted to use KSC facility breathing air systems, if available at the work location.

c. The contractor shall perform a Pre-Work Site Inspection to identify coupling types in use at the work location before mobilizing or using any breathing air equipment.

d. The contractor shall also submit a written certification to show the contractor's breathing air system has been recently inspected and meets Grade D breathing air standards.

NOTE: Alternately, the contractor may arrange for on-site testing of contractor-supplied breathing air by the Government at least five days prior to start of work.

e. The contractor shall also provide a worksite evaluation for the NASA Safety Office to review before using any breathing air system.

NOTE: The breathing air test and the safety inspection can be coordinated through the CO, and will be at no cost to the contractor.

f. The contractor shall tag or label connector ends of all lines and flexible hoses of contractor-provided breathing air or non-respirable gas distribution systems with tags or labels that clearly identify the contents of the lines or hoses.

g. The contractor shall provide a description of the steps taken to comply with these requirements in their safety plan submittal.

3.21 Rollover Protection for Mobile Equipment

a. Rollover protection devices and seatbelts shall be in place on all special purpose equipment at all times.

NOTE: Equipment includes crawler and rubber tired tractors, with or without attachments, such as front end loaders, blades, self propelled earth movers, including pan scrapers, bottom dumps, side dumps, rollers, and graders.

b. Special purpose equipment without rollover protection devices shall not be allowed on the construction site.

c. Seatbelts shall be utilized anytime the equipment is in operation.

3.22 Scaffolding

a. The contractor shall designate a competent person (scaffolding) for the erection and inspection of any scaffolding systems used on the contract.

b. Scaffolds shall be designed by a qualified person and shall be constructed and loaded in accordance with that design.

NOTE 1: A competent person in scaffolding is one who is capable of identifying existing and predictable hazards as it relates to scaffolding in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

NOTE 2: A qualified person in scaffolding is a person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work, or the project.

c. A competent person (scaffolding) shall supervise the moving, erection, modification, and dismantling of all scaffolding.

d. All scaffolds and scaffold components shall be designed to support at least four times the maximum intended load.

e. Scaffolds shall be inspected for visible defects by a competent person (scaffolding) before each work shift and after any occurrence which could affect the scaffold's structural integrity.

f. Scaffold users shall confirm that a competent person (scaffolding) has inspected the scaffolding during that work shift before they access the scaffolding.

g. The inspection shall be documented and available to employees that access the scaffold.

NOTE: A recommended documentation process includes a tag attached to the scaffold that shows the inspector's name and date/time of each inspection.

h. Guardrails and toe boards shall be installed on all open sides and ends of platforms more than four feet above the ground or floor.

i. All planking used on scaffolds shall be scaffold grade, or equivalent.

j. Scaffolds that are NOT rolling tower-type scaffolds shall not be moved while employees are on them.

k. Moving rolling tower type scaffold while employees are on them shall be permitted only when ALL of the following conditions are met:

(1) The maximum scaffold height does not exceed twice the minimum base width/length.

(2) The surface on which the scaffold is being moved shall be within three degrees of level and free of pits, holes, and obstructions.

(3) Employees on scaffold shall be made aware of the move.

(4) Forces shall be applied at points well below five feet above the base of the structure.

(5) No portion of the employee on the scaffold may extend outward beyond the wheels, casters, or other supports.

l. Minimum clearance from power lines for any scaffold component shall be:

(1) Insulated Lines less than 300 volts: 3 feet

(2) Insulated or non-insulated lines less than 50 kV: 10 feet

(3) Insulated or non-insulated lines greater than 50 kV: 10 feet + 4" for each kV > 50 kV

m. Ladders or any makeshift device such as a box or barrel shall not be used to increase the working level height of employees on the scaffold. All work shall be accomplished from the scaffold deck.

n. No employee shall climb the outside framework or cross braces of a scaffold. All scaffold access shall be by ladder, walkway, ramp, or stairs.

o. No material shall be stored on scaffold decks. Material staged on the scaffold deck for immediate installation or use that is not installed or used shall be removed from the scaffold when work is stopped for the day.

p. Contractors shall ensure employees who perform work (scaffold user) while on a scaffold are trained in accordance with the requirements identified in 29 CFR 1926.454.

q. Documentation of employee scaffold user training shall be provided as part of the contractor's safety plan submittal.

3.23 Steel Erection

a. The contractor shall have a Site Specific Steel Erection Plan that includes a complete final copy of specifications and drawings issued for construction by the design Professional Engineer (PE).

NOTE: A Preconstruction conference and site inspection should be conducted between the erector, contractor, project engineer, and any additional personnel needed to develop and review the site-specific steel erection plan.

b. The Site Specific Steel Erection Plan shall include:

(1) A site lay out drawings detailing the access roads into and through the job site for safe delivery and movement of cranes, derricks, trucks, and other necessary equipment, the material to be erected methods for vehicular and pedestrian control. A firm, properly graded, drained area, readily accessible to the work with adequate space for safe storage of materials and safe operation of the erectors equipment.

(2) The sequence of erection activities that includes material deliveries, staging, storage locations, and coordination with other trades and construction activities.

(3) A description of the crane and/or derrick selection and placement that includes site preparation and path for overhead loads, a pre-plan of all overhead hoisting and operations, and plans for critical lifts including rigging supplies and equipment.

(4) The erection sequence including guying, bracing, bridging, anchor rod and anchor bolt mods, columns, and beams (including joists and purlins), connections, decking, ornamental and miscellaneous iron work.

(5) A description of the fall protection procedures that will be used in compliance with KNPR 8715.3, Kennedy Safety Practices Procedural Requirements and 29 CFR 1926.760.

(6) A certification for each employee who has received training for performing steel erection operations as required by 29 CFR 1926.761.

(7) A list of the designated qualified and competent persons in steel erection.

(8) A description of procedures that will be utilized in the event of rescue or emergency response.

c. Prior to commencement of steel erection the contractor shall ensure the following written notifications have been received:

(1) Concrete footings, piers and walls, and the mortar in masonry piers and wall as attained, on the basis of an appropriate ASTM standard test method of field cured samples either 75 percent of the intended minimum compressive design strength of sufficient strength to support the loads imposed during steel erection.

(2) Any repairs, replacements, and modification of the anchor bolts were conducted in accordance with 29 CFR Subpart R Steel Erection 1926.755(b)

3.24 Vehicle Mounted Elevating and Rotating Work Platforms

3.24.1 General Requirements for Elevating Work Platforms (EWP)

a. "Field Modification" of aerial lifts for uses other than those intended shall be permitted only after the modification has been certified in writing by the manufacturer or by a nationally recognized testing laboratory in accordance with all applicable provisions of ANSI A92-2.

b. If a request to evaluate a "field modification" is submitted to the manufacturer and a response is not received within a reasonable time period, a Professional Engineer shall be assigned to evaluate the unit and calculate a process to modify the unit, adding the necessary fall protection devices necessary to safely use the lift.

c. Boom and basket load limits specified by the manufacturer shall not be exceeded.

d. Electrical tests performed on high voltage bucket trucks shall be made in conformance with the requirements of ANSI A92-2.

e. If lift equipment is modified, as outlined above, all welding shall conform to the Automotive Welding Society (AWS) Standards.

f. When operating aerial lifts under, over, by, or near energized electric power lines, the operator shall not approach closer than the restricted approach boundary as defined in NFPA 70E, Table 130.2(C).

g. A personal fall arrest system shall be required for all employees in any lift. This shall include a body harness and lanyard with deceleration device affixed to the manufacturers provided anchor point.

h. If the employee must exit the lift, the employee shall use the double lanyard system. The employee shall remain attached to the lift with one lanyard, and shall only exit the lift in accordance with the approved safety plan.

3.24.2 Operations

a. Lift controls shall be tested each day prior to use to determine that such controls are in safe working condition.

b. Fall protection equipment shall only be used by personnel that have been properly trained.

c. Fall protection equipment shall be inspected prior to each use.

d. Attaching fall arrest or positioning lanyards to an adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted.

e. Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

f. The brakes shall be set and outriggers, when required, shall be positioned on pads or a solid surface.

g. Wheel chocks shall be installed before using an aerial lift on an incline. Aerial platforms shall not be operated in any manner on grades, side slopes, or ramps exceeding those for which the aerial platform is rated by the manufacturer.

h. An aerial lift truck shall not be moved when the boom is elevated in a working position with employees in the basket.

i. Articulating Boom and Extensible Boom Platform Operation

(1) Articulating boom and extensible boom platforms, primarily designed as personnel carriers, shall have operational platform (upper) and lower controls.

(2) Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls.

(3) Controls shall be plainly marked as to their function.

(4) Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

3.24.3 Work Practices

a. Employees shall keep all parts of the body inside the platform during raising, lowering, and positioning.

NOTE: This provision does not apply to an occupant of the platform performing the duties of a signal person.

b. Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge or railings of the basket or use planks, ladders, or other devices to gain additional elevation or for a work position.

3.24.4 Inspection and Maintenance

a. Vehicle mounted elevating and rotating work platforms shall be inspected daily (if the contractor is working more than one shift per day, inspections shall be done at the start of each shift), and shall not be placed in service if the inspection shows any condition adversely affecting the safety of the vehicle.

b. The following items shall be inspected:

(1) Operating controls and associated mechanisms for conditions interfering with proper operation.

(2) Visual and audible safety devices for malfunction.

(3) Hydraulic or pneumatic systems for observable deterioration or excessive leakage.

(4) Fiberglass and other insulating components for visible damage or contamination.

(5) Missing or illegible operational and instructional markings.

(6) Electrical systems of/or related to the aerial device for malfunction, signs of excessive deterioration, dirt and moisture accumulation.

(7) Visual inspection of bolts, pins, and other fasteners for loose, deformed, or missing fasteners and other locking devices.

c. Any suspected items shall be carefully examined or tested and a determination made by a qualified person as to whether they constitute a safety hazard. All unsafe items shall be replaced or repaired before use.

d. Where vehicle mounted elevating and rotating work platforms are used on an around the clock basis, they shall be examined after each shift, and if defects are found, they shall be immediately reported and corrected.

e. Inspections shall be documented, signed, and kept with the equipment at the worksite.

f. If operators change during the same shift, they shall review the inspection document and initial it if the status of the vehicle did not change.

3.24.5 Training Requirements

a. Employees shall receive formal training in elevated work platforms before being allowed to operate any aerial lift as defined by this procedure.

b. Training in fall protection equipment is required before operating in an aerial lift.

3.25 Welding and Cutting Operations

a. All welding and cutting operations shall be in accordance with Occupational Safety and Health Administration 29CFR1926 Subpart J, KSC Fire Prevention Procedures for Contractors, The National Fire Protection Association 51B.

b. The contractor shall ensure flammable materials are at least 50 feet and combustibles 35 feet from welding operation. Exceptions are only authorized when approved by the KSC Fire Inspector when:

(1) The flammable and combustible materials cannot be relocated.

(2) The work cannot be accomplished by any other means.

(3) The flammable and combustible materials are protected by the use of welding blankets or other fire inspector approved methods.

c. Welding and cutting operations shall not be conducted in the vicinity of flammable liquids, gases, vapors, or oxygen enriched atmospheres.

d. Prior to any torch cutting/welding on any painted surface, the coating shall be removed a minimum of 4 inches in each direction from the cut/weld point or personal protective equipment requirements in OSHA standard 29 CFR 1926.62 must be complied with.

e. Only employees properly trained and certified to operate welding and torch equipment shall operate such equipment.

f. Only approved equipment (such as torches, regulators, pressure reducing valves, acetylene generators, gas hoses, electric cables, etc.) shall be acquired and used for hot work operations.

g. All work shall be properly shielded from observation of the bare arc by adjacent or passing personnel.

h. Arc welders shall conduct inspections daily before beginning operations to ensure their equipment is clear of defects and safe to use. Report any defects to supervision.

i. All portable cylinders used for storage and transportation of compressed gasses shall be constructed and maintained in accordance with the regulations of the U.S. Department of Transportation (DOT).

j. Labeling / Marking of Cylinders used in Welding

(1) Cylinders shall be legibly marked with either the chemical or trade name of the gas contained.

(2) Cylinder labeling/marking shall be by means which is not easily removed.

(3) When practical the marking shall be on the shoulder of the cylinder.

k. Compressed gas cylinders shall be equipped with valves and/or connections that comply with ANSI requirements.

l. Cylinder valves shall be closed before moving cylinders, when work is finished, and when empty.

m. Acetylene is flammable and highly explosive when mixed with air. As such, it shall be handled and stored safely as follows:

(1) Acetylene shall be stored in a vertical position.

(2) Never use acetylene at a pressure higher than 15 psig.

(3) Where cylinders have been lying in a horizontal position, they shall stand in an upright position for at least two hours prior to use.

n. Oxygen cylinders in storage shall be separated from fuel gas cylinders or other combustible materials a minimum distance of 20 feet or by a non combustible one half hour rated fire resistant barrier at least 5 feet tall.

o. Cylinders shall be placed in storage when there is no reasonable anticipation of use within a 24 hour period.

p. Cylinders in use or transport shall be stored in an upright position and secured by chain or bracket that prevents falling. The preferred method is an approved welding cart.

q. When transporting cylinders by a crane or derrick, a cradle, boat, or suitable platform shall be used. Slings, chokers, ropes, or electric magnets shall not be used for this purpose.

r. Valve protection caps shall always be in place when not in use or inter connected.

s. Cylinders shall not be dropped, struck, handled roughly, or permitted to strike each other violently.

t. Valve caps shall be used to protect valves from damage.

u. Valve caps shall not be used as a lifting device.

v. Valve protection caps shall be installed before moving the cylinder unless the cylinder is secured on a special truck.

3.26 Working Over or Near Water

a. A serviceable United States Coast Guard (USCG)-approved life vest or buoyant work vest shall be worn by all employees required to work within six feet of an unprotected edge that is over water if NASA Safety determines there is a danger of drowning if an employee were to fall.

b. In addition to life or buoyant work vests, a throwable ring buoy with 90 feet of rope attached for emergency rescue shall be maintained within 200 feet of the worksite.

c. The life/work vests and ring buoys shall be inspected for defects that alter their strength or buoyancy prior to each use. Defective equipment shall be replaced immediately.

d. A rescue skiff shall be immediately available (able to perform rescue within four minutes of employee entering the water) in the work area to assist in emergency rescue.

3.27 Work Zone Maintenance of Traffic (MOT)

a. Where work is accomplished on or within 15 feet of the roadway, a work zone safety Maintenance of Traffic (MOT) plan shall be developed as a part of the contractor's SSSP by a certified and trained Traffic Engineer. The MOT plan shall be developed and implemented in accordance with the Florida Department of Transportation (FDOT) standards.

NOTE: In lieu of an engineered plan, pre-designed plans found in FDOT Design Standard for Traffic Control through Work Zones, Index 600, may be used.

b. All employees working within 15 feet of a roadway or street shall wear reflective vests compliant with ANSI/ISEA 107 – 2004 Class 2 High-Visibility Safety Apparel. Class 3 is required for flaggers performing work at night.

c. The contractor site supervisor managing traffic control set up shall be trained to the intermediate or advanced MOT level.

d. The Intermediate/Advanced trained MOT person shall verify/ensure the control zone is correctly set up prior to the start of each day's work.

e. Only trained flagmen shall be used to control traffic through work zones.

f. The flagman shall have no other duties assigned while the traffic control zone is established.

g. The verification of training shall be submitted in the training section of the contractor's SSSP.

SECTION J - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

J.E KSC Construction Contractor Safety and Health Practices Users Guide. KSC-UG-2814, Rev: A-1, August 2010. This user guide and associated KNPRs does not relieve contractors of their obligations under OSHA regulations or any other applicable Federal, State, and local laws and regulations

National Aeronautics and Space Administration
John F. Kennedy Space Center, Florida

Safety and Mission Assurance Directorate

KSC Construction Contractor Safety and Health Practices User Guide

Approved By:

_____
Michael E. Wetmore
Director, Safety and Mission Assurance

August 2010

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Revision History

Revision A was completed to update the document to coincide with KSC Construction Contractor Safety and Health Practices Procedural Requirements, KNPR 8715.7, Revision A.

SCOPE 1.1 modified the last paragraph to read: This user guide and associated KNPRs does not relieve contractors of their obligations under OSHA regulations or any other applicable Federal, State, and local laws and regulations.

2.0 SSSP (EXAMPLE) modified first paragraph to read "…KSC personnel (federal civil servants and contractor employees)."

8.0 Job Hazard Analysis Sample (NASA KSC Format) revised complete section.

12.0 NASA Direct Construction Contractor Mishap Report (KDP-F-3645) revised section for clarification.

ATTACHMENT A: SSSP (TEMPLATE) updated the following sections to coincide with KNPR 8715.7, Revision A.

4. Accident / Incident (Mishap / Close Call) Reporting paragraph d, f, j, and k.

5. Weather Policy d, e, f, g, h, i.

7. Construction Site Safety paragraph e.

17. Job Hazard Analysis (JHA) paragraph d.

25. Confined Space Entry paragraph a and b.

26. Cranes and Lifting Operations paragraph r.

27. Demolition paragraph o.

29. Electrical Safety paragraph a, bold section after a, e, j, n, o.

38. Industrial Hygiene paragraph a(3).

44. Respiratory Protection paragraph a.

46. Scaffolding paragraph a.

48. Vehicle Mounted Elevating and Rotating Work Platforms paragraph a(6) and c(3)

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1.0 GENERAL

It is Kennedy Space Center (KSC) policy to provide a safe and healthy work environment for all those who perform work on KSC including civil service and contractor personnel. As a team we all need to strive to ensure the workplace is free of unsafe and unhealthful conditions that could cause loss of life or injury to personnel or damage to facilities or equipment.

This document was developed to assist National Aeronautics and Space Administration's (NASA's) Construction of Facilities (CoF) contractors in developing Site-Specific Safety and Health Plans that are designed to ensure their construction site work safety and health maintains compliance to 29 CFR 1926 (Safety and Health Regulations for the Construction Industry) and 29 CFR 1910 (Safety and Health Regulations for General Industry), National Consensus Standards, and NASA/KSC Safety Program and Policies.

Additionally, this user guide provides examples of commonly used permits and forms, contact numbers, and general instructions regarding how to meet the requirements of KNPR 8715.7, KSC Construction Contractor Safety and Health Practices Procedural Requirements and KNPR 8715.3, KSC Safety Practices Procedural Requirements.

1.1 SCOPE

The safety and health of all persons involved in all types of work at KSC is paramount. Safety is the freedom from conditions that can cause death, injury, occupational illness, damage to or loss of equipment or property, or harm to the environment. NASA's safety priority is to protect the public, international partners, astronauts, and pilots, the NASA workforce (including contractor employees working on NASA contracts), and high-value equipment and property.

This Construction Contractor Safety and Health Requirements Users Guide was compiled for use by NASA KSC Construction Contractors in conjunction with KNPR 8715.7, KSC Construction Contractor Safety and Health Practices Procedural Requirements to assist contractors in developing Site-Specific Safety and Health Plans for their work at KSC and to ensure contractors and their employees (to include subcontractors) perform all work in a safe manner compliant with 29 CFR 1926 Safety and Health Regulations for the Construction Industry, 29 CFR 1910 Safety and Health Regulations for General Industry, national consensus standards, and NASA and KSC Safety Program and Policies.

This document contains guidance and templates to assist NASA KSC construction contractors with meeting and satisfying requirements and regulations followed on the Center. The information provided is not intended to detail all OSHA and contractual requirements. This user guide and associated KNPRs does not relieve contractors of their obligations under OSHA regulations or any other applicable Federal, State, and local laws and regulations.

1.2 APPLICABILITY

This document is applicable for use by all prime NASA KSC construction contractors and their subcontractors performing work under construction contracts awarded and administered by the NASA/KSC Procurement Office.

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1.3 RESPONSIBILITIES

It is the responsibility of the NASA prime construction contractors to ensure that the safety and health requirements identified in their Site-Specific Safety and Health Plan (SSSP) and other related plans are observed by all contractor and subcontractor employees on the jobsite.

1.4 REFERENCED DOCUMENTS

a. KNPR 8715.3, Kennedy Safety Practices Procedural Requirements

b. KNPR 8715.7, KSC Construction Contractor Safety and Health Practices Procedural Requirements

2.0 SSSP (EXAMPLE)

In accordance with KNPR 8715.7, KSC Construction Contractor Safety and Health Practices Procedural Requirements, chapter 2, the contractor's SSSP must address the policies, procedures, and techniques that will be used to assure the safety and occupational health of the contractor's and their subcontractor's workforce on the awarded contract. Additionally, the contractor must address how they will protect KSC personnel (federal civil servants and contractor employees), the public, and NASA equipment and property.

An SSSP Template has been provided as Attachment A and the SSSP Section Requirements Checklist has been provided as Attachment B to assist contractors in the development of their SSSP.

3.0 FIRE PREVENTION

As stated in KNPR 8715.7, section 3.9, contractors are responsible for fire prevention and protection. A handbook has been included as Attachment C to this User Guide. It may be printed and distributed, used as a resource in the preparation of the SSSP, or included as an appendix in the SSSP.

4.0 HOT WORK PERMITS

Requirements pertaining to hot work permits are contained in KNPR 8715.3, Kennedy Safety Practices Procedural Requirements. Additional requirements pertaining to construction contractors are contained in section 3.13 of KNPR 8715.7, KSC Construction Contractor Safety and Health Practices Procedural Requirements. The following Hot Work Permits may be required for work performed at KSC.

The permits have been provided here as samples of permits commonly used by construction contractors. Official versions of these forms are available on the KSC Forms website at: http://kscforms/findex.cfm

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4.1 HOT WORK PERMIT, TORCH DOWN ROOF OPERATIONS (KSC FORM 2-270)

In accordance with KNPR 8715.7, section 3.13, item a(1):

a. A KSC hot work permit shall be obtained from Kennedy Fire Services prior to any:

(1) Hot work for roof construction or repair using a “torch down” method (KSC Form 2-270).

An example of KSC Form 2-270 has been provided in Figure 1, below.

Torch Down Roof Operations
Hot Work Permit

Organization/Company Name	Permit Number	Date/time of permit issue	Date/time permit expires
Facility/Area			
Supervisor/Operator's Name	Phone Number	Contractor Site Safety Agent	Signature
Supervisor/Operator's Signature		Permit Authorizing Individual	Name and Phone Number

	Y	N	N/A
1. On-site inspection by Permit Authorizing Individual before torch down permit is issued.	☐	☐	☐
2. Site Safety shall perform a DAILY SITE WALK DOWN to ensure personnel are complying with fire guidelines and regulations, and shall ensure the following:			
a. All fire extinguishers inspected daily prior to start of any torch down.	☐	☐	☐
b. Inspect each new torch down site following guidelines of hot work permit.	☐	☐	☐
c. Insure fire watch has been briefed and assigned to each new torch down site.	☐	☐	☐
3. Operator affirms area shall be CLEANED AFTER EACH SHIFT (ground and roof areas).	☐	☐	☐
4. ALL FLAMMABLE LIQUIDS AND PROPANE CYLINDERS shall be removed from the roof at the end of each work day.	☐	☐	☐
5. FLAMMABLE liquid containers shall be of approved safety type with an attached HMIS label with correct information.	☐	☐	☐
6. PROPANE CYLINDERS shall be separated by 20 feet from the area where FLAMMABLE LIQUIDS are being stored.	☐	☐	☐
7. No flammables within 50 feet of torch down (except propane tanks in use by torch operators).	☐	☐	☐
8. Operator shall ensure all combustibles kept 35 feet away from HOT WORK OPERATIONS.	☐	☐	☐
9. During any HOT WORK operations, a DEDICATED FIRE WATCH shall be assigned.	☐	☐	☐
10. Operators/Fire Watches shall be familiar with and trained to operate fire extinguishers.	☐	☐	☐
11. FIRE WATCH shall monitor all areas for a minimum of TWO HOURS after stopping torch down work. (i.e., breaks, lunch, end of shift).	☐	☐	☐
12. An INFRARED type heat detector shall be used to monitor for hot spots periodically during torch-down operations and during the TWO HOUR fire watch after stopping torch down.	☐	☐	☐
13. All TORCH DOWN OPERATIONS SHALL CEASE when wind speed reaches a steady state of 18 kts (21 mph).	☐	☐	☐
14. All roof openings (i.e., vents, hatches, skylights, roof access, duct work) shall be protected, and a method other than direct TORCH-DOWN shall be used near these locations.	☐	☐	☐
15. At least one multipurpose 4A:60BC FIRE EXTINGUISHER required to be within 20 feet of each torch down operation or hot work site.	☐	☐	☐
16. Subcontractor Site Safety shall ensure personnel working on roof are aware of requirements, and shall be briefed daily on how to EVACUATE THE ROOF DURING AN EMERGENCY.	☐	☐	☐
17. In the event of FIRE OR EMERGENCY call 911 or cell phone - #321-867-7911.			

Additional Comments

Code References: NFPA 241 *Standard for Safeguarding Construction, Alteration, and Demolition Operations*, NFPA 101 *Life Safety Code*, NFPA 51B *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*, 45th SW 32-2001 *Fire And Emergency Services Program*

KSC FORM 2-270 (05/08)

FIGURE 1: HOT WORK PERMIT, TORCH DOWN WORK (KSC FORM 2-270)

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4.2 HOT WORK PERMIT, CONSTRUCTION / DEMO (KSC FORM 2-271)

In accordance with KNPR 8715.7, section 3.13, item a(2):

a. A KSC hot work permit shall be obtained from Kennedy Fire Services prior to any:

(2) Hot work for demolition, modification or new construction that includes welding, cutting, burning, open flame and heat producing operations, soldering, heat sealing, or any spark producing operation (e.g., grinding) (KSC Form 2-271).

An example of KSC Form 2-271 has been provided in Figure 2, below.

Hot Work ☐ *New Construction ☐ *Demolition ☐
Permit

Organization/Company Name	Permit Number	Date/time of permit issue	Date/time permit expires
Facility/Area			
Supervisor/Operator's Name (see Note #1)	Phone Number	*Contractor Site Safety Agent (As needed)	Signature
Supervisor/Operator's Signature		Permit Authorizing Individual	Name and Phone Number

	Y	N	N/A
1. On-site inspection by Permit Authorizing Individual before issuing permit.	☐	☐	☐
2. Operator affirms they are properly trained to operate equipment?	☐	☐	☐
3. Operator affirms equipment is inspected and in safe operating condition?	☐	☐	☐
4. Operator shall maintain good housekeeping practices throughout operation.	☐	☐	☐
5. Fire Extinguishers shall be inspected daily prior to hot work, located within 20 ft. of hot work site; and its use is understood. Type (4A:60BC, 2 1/2 gal. water, 15 lbs. CO^2), quantity _____, other _____.	☐	☐	☐
6. Flammable liquids/gases minimum distance 50 ft. from hot work or are properly protected.	☐	☐	☐
7. Operator shall remove all combustibles 35 ft. away from hot work or are properly protected.	☐	☐	☐
8. Operator shall ensure all hazardous dust, lint, and oily deposits are removed.	☐	☐	☐
9. Operator shall provide appropriate safety barriers and warning signs (as required).	☐	☐	☐
10. Operator shall visually inspect all enclosures/chases/duct work before cutting.	☐	☐	☐
11. Operator shall ensure wall/floor openings and adjacent areas are protected.	☐	☐	☐
12. Operator shall ensure detection systems (including HVAC) are safed, covered, or protected before hot work begins; and systems shall be restored to service daily.	☐	☐	☐
13. Fire suppression systems shall be kept operational (unless otherwise permitted).	☐	☐	☐
14. No hot work in explosive or oxygen enriched atmospheres (air sampling as required).	☐	☐	☐
15. Operator shall ensure all equipment, containers, pipes, hoses have liquids drained, pressure released, vapors purged, gas valves shut off, etc.	☐	☐	☐
16. All fire watches shall be briefed by supervisor/operator of potential hazards, shall read requirements of this checklist, and observes 30 minutes after completion of hot work.	☐	☐	☐
17. In the event of FIRE OR EMERGENCY call 911 or cell phone - #321-867-7911.			
*** Additional requirements for New Construction or Demolition work**			
18. Contractor Site Safety Agent shall provide a safety briefing to all operators and review the requirements of this permit.	☐	☐	☐
19. Locations to be cut using hot work shall be identified and marked (as required).	☐	☐	☐

Additional Comments

(Note #1): If Operator cannot complete work, all new operators shall read and initial next to appropriate boxes and sign this checklist below, indicating full understanding of safety procedures and requirements.

Alternate Operator Signature _____ Date _____ Alternate Operator Signature _____ Date _____

Code References: NFPA 51B *Standard for Fire Prevention During Welding, Cutting and Other Hot Work*, NFPA 241 *Standard for Safeguarding Construction, Alteration, and Demolition Operations*, NFPA 101 *Life Safety Code*, NFPA 1 *Uniform Fire Code*, OSHA 1910.252, OSHA 1926.352. 45th SWI 32-2001 *Fire And Emergency Services Program*

KSC FORM 2-271 (05/08)

FIGURE 2: HOT WORK PERMIT (KSC FORM 2-271)

RELEASED - Printed documents may be obsolete; validate prior to use.

4.3 HOT WORK PERMIT, TAR KETTLE OPERATIONS (KSC FORM 2-272)

In accordance with KNPR 8715.7, section 3.13, item a(3):

a. A KSC hot work permit shall be obtained from Kennedy Fire Services prior to any:

(3) Hot work for roof construction or repair using “tar kettle” operations (KSC Form 2-272).

An example of KSC Form 2-272 has been provided in Figure 3, below.

Tar Kettle Operation
Hot Work Permit

Organization/Company Name	Permit Number	Date/time of permit issue	Date/time permit expires
Facility/Room/Area			
Supervisor/Operator's Name	Phone Number	Contractor Site Safety Agent	Signature
Supervisor/Operator's Signature		Permit Authorizing Individual	Name and Phone Number

	Y	N	N/A
1. On-site inspection by Permit Authorizing Individual before torch down permit is issued.	☐	☐	☐
2. Site Safety shall perform a DAILY SITE WALKDOWN to ensure personnel are complying with fire guidelines and regulations, and shall ensure the following:			
a. All fire extinguishers inspected daily prior to start of any tar kettle.	☐	☐	☐
b. Inspect tar kettle area and roof sites daily following guidelines of hot work permit.	☐	☐	☐
c. Insure fire watch has been assigned and briefed.	☐	☐	☐
3. Operator affirms area shall be CLEANED AFTER EACH SHIFT (ground and roof areas).	☐	☐	☐
4. Tar kettle shall be operated in a controlled area. The are shall be identified by the USE OF BARRIERS, "NO SMOKING" in operational area.	☐	☐	☐
5. Tar kettle shall be placed not less than 20 feet from the structure. A non-combustible sturdy barrier 8 feet high & 4 feet beyond each side of kettle is required if closer than 20 feet.	☐	☐	☐
6. LPG tank or tanks shall be placed NO LESS THAN 20 ft. from structure and secured.	☐	☐	☐
7. LPG tank or tanks shall be placed NO LESS THAN 20 ft. from TAR KETTLE and secured.	☐	☐	☐
8. Operator affirms all connections have been checked prior to start up of the tar kettle.	☐	☐	☐
9. Operator affirms all piping are in compliance with applicable codes.	☐	☐	☐
10. Tar kettles SHALL NOT BLOCK EXITS, means of egress, gates, roadways or entrances.	☐	☐	☐
11. NO flammables within 50 ft. (except LPG tanks), or combustibles within 35 ft. of tar kettle.	☐	☐	☐
12. STORAGE of stock shall be maintained no less than 50 feet from the tar kettle/burner equipment. One days working stock is permitted no less than 10 feet of the tar kettle.	☐	☐	☐
13. The tar kettle shall be MANNED AT ALL TIMES while in use and for 30 minutes after the burner has been shut down.	☐	☐	☐
14. Operator affirms tar kettle shall be SHUT DOWN while refueling.	☐	☐	☐
15. MINIMUM OF THREE (3) 20 lbs. multipurpose fire extinguishers shall be provided. Two extinguishers shall be placed within 25 feet of tar kettle, minimum of one extinguisher shall be placed on the roof.	☐	☐	☐
16. Operator affirms all skimmed material shall be placed on a NON-COMBUSTIBLE SURFACE and material shall be broken-up to prevent heat build-up.	☐	☐	☐
17. Subcontractor Site Safety shall ensure personnel working on roof are aware of requirements, and shall be briefed daily on how to EVACUATE THE ROOF DURING AN EMERGENCY.	☐	☐	☐
18. In the event of FIRE OR EMERGENCY call 911 or cell phone - #321-867-7911.			

Additional Comments

Code References: NFPA 241 *Standard for Safeguarding Construction, Alteration, and Demolition Operations*, NFPA 101 *Life Safety Code*, NFPA 51B *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*, NFPA 1 *Uniform Fire Code*, NFPA 10 *Standard for Portable Fire Extinguishers*, 45th SW 32-2001 *Fire And Emergency Services Program*

KSC FORM 2-272 (05/08)

FIGURE 3: TAR KETTLE OPERATION HOT WORK PERMIT (KSC FORM 2-272)

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5.0 TRAILER AND EQUIPMENT TIEDOWN PLAN (KSC-PLN-1904)

Minimum requirements for leveling and anchorage of office trailers and other mobile and temporary structures are available in KSC-PLN-1904, Trailer/Equipment Tiedown Plan for KSC.

6.0 DOCUMENTS AND FORMS

The following information may be useful to your organization while working at KSC. This information may be posted in common areas, at the worksite, or any other area as needed

Emergency / Important Contact Phone Numbers

KSC Protective Services Control Center	911 (321-867-7911 - cell phone)
Fire Department	911 (321-867-7911 - cell phone)
Ambulance	911 (321-867-7911 - cell phone)
Police Department	911 (321-867-7911 - cell phone)
KSC Safety Office	(321) 867-SAFE (7233)
KSC Duty Office / Trouble Call	(321) 861-5050
Medical / Environmental Duty Office	(321) 867-2400
Weather Information	(321) 853-8484
Hazardous Waste / Pollution Prevention	(321) 867-7138
KSC Locator / General Information	(321) 867-4369
EOC Storm Info / Update Hotline	(321) 861-7900

Medical Facilities

Onsite Medical Dispensaries

Occupational Health Facility (OHF)
2nd and C Avenue –
Bldg. M6-495 (321) 867-3346
Monday-Friday, 7 am to 5 pm
Industrial Area

Multi-Functional Facility (MFF)
Utility Road and VAB Road
Bldg. K6-1145
(321) 861-1320 or 867-3360
Monday-Friday, 7 am to 3 pm - LC-39 Area

Offsite Vicinity Hospitals

Parrish Medical Center
951 N. Washington Ave.
Titusville, FL (321) 268-6111
24 hours/day, 7
10 miles; North on US1

Cape Canaveral Hospital
701 W. Cocoa Beach Causeway
Cocoa Beach, FL
(321) 799-7111 24 hours/day,
7 days/week
22 miles; East on SR520

Wuesthoff Hospital
110 Longwood Ave., Rockledge, FL
(321) 636-2211
24 hours/day, 7 days/week
24 miles; South on US1

Holmes Medical Center
1350 Hickory Street
Melbourne, FL (321) 434-7000
24 hours/day, 7 days/week
44 miles; South on I-95

Orlando Regional Medical Center
1414 Kuhl Ave., Orlando, FL
(407) 841-5111
24 hours/day, 7 days/week
50 miles; West on SR50

FIGURE 4: KSC EMERGENCY CONTACT PHONE NUMBERS

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KSC LIGHTNING WATCH AND WARNING LOCATIONS

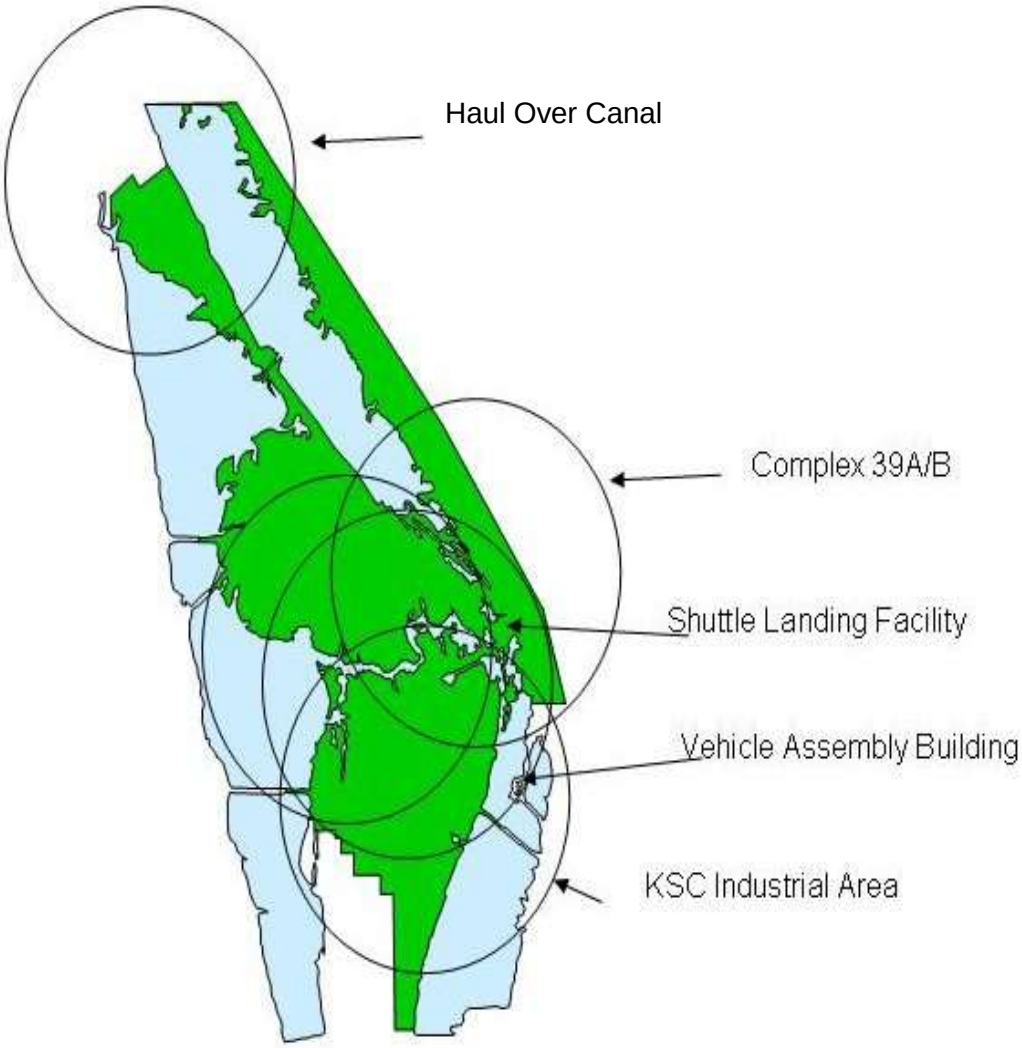

FIGURE 5: KSC LIGHTNING WATCH AND WARNING LOCATIONS

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Wind Conversion Chart

SPEED CONVERSIONS - KNOTS, MPH, KPH		
Knots	Miles per Hour	Kilometers per Hour
1	1.15	1.85
2	2.30	3.70
3	3.45	5.55
4	4.61	7.41
5	5.76	9.26
6	6.91	11.13
7	8.06	12.98
8	9.21	14.83
9	10.36	16.68
10	11.52	18.55
11	12.67	20.35
12	13.82	22.20
13	14.97	24.05
14	16.12	25.90
15	17.27	27.75
16	18.42	29.60
17	19.58	31.45
18	20.73	33.30
19	21.88	35.15
20	23.03	37.00
21	24.18	38.85
22	25.33	40.70
23	26.48	42.55
24	27.64	44.40
25	28.79	46.25
26	29.94	48.10
27	31.09	49.95
28	32.24	51.80
29	33.39	53.65
30	34.55	55.50
31	35.70	57.35
32	36.85	59.20
33	38.00	61.05
34	39.15	62.90
35	40.30	64.75

SPEED CONVERSIONS - KNOTS, MPH, KPH		
Knots	Miles per Hour	Kilometers per Hour
36	41.45	66.60
37	42.61	68.45
38	43.76	70.30
39	44.91	72.15
40	46.06	74.00
41	47.21	75.85
42	48.36	77.70
43	49.51	79.55
44	50.67	81.40
45	51.82	83.25
46	52.97	85.10
47	54.12	86.95
48	55.27	88.80
49	56.42	90.65
50	57.58	92.50
51	58.73	94.35
52	59.88	96.20
53	61.03	98.05
54	62.18	99.90
55	63.33	101.75
56	64.48	103.60
57	65.64	105.45
58	66.79	107.30
59	67.94	109.15
60	69.09	111.00
61	70.24	112.85
62	71.39	114.70
63	72.54	116.55
64	73.70	118.40
65	74.85	120.25
66	76.00	122.10
67	77.15	123.95
68	78.30	125.80
69	79.45	127.65
70	80.61	129.50

8th Edition, National Safety Council, p. 43
Table 2-A
FORCE OF WIND FOR GIVEN VELOCITIES

Knots per hour (v)	Miles per hour (V)	Feet per minute	Feet per second	Force in pounds per square foot (0.004V2)	Description
1	1	88	1.47	0.004	Hardly perceivable.
2	2	176	2.93	0.014	Just perceivable
3	3	264	4.4	0.036	
3	4	352	5.87	0.064	Gentle breeze
4	5	440	7.33	0.1	
9	10	880	14.67	0.4	Pleasant breeze
13	15	1,320	22	0.9	
17	20	1,760	26.6	1.6	Brisk gale
22	25	2,200	29.3	2.5	
26	30	2,640	44	3.6	High wind
30	35	3,080	51.3	4.9	
35	40	3,520	58.6	6.4	Very high wind
39	45	3,960	66	8.1	
43	50	4,400	73.3	10	Storm
52	60	5,280	88	14.4	Great storm
61	70	6,160	102.7	19.6	
69	80	7,040	117.3	25.6	Hurricane
87	100	8,800	146.6	40	

-From Kidder-Parker, Architects and Builders Handbook.

FIGURE 6: WIND CONVERSION CHART

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7.0 EMPLOYEE TRAINING REQUIREMENTS OSHA REFERENCES

In accordance with KNPR 8715.7, section 2.2, Contractor Employee Training:

The contractor SSSP will include a Training Certification Summary that identifies all applicable employee required training for work under the contract scope. The contractor shall ensure that employees not identified on the Training Certification Summary are not assigned to perform work requiring the requisite training.

The following list identifies the location of safety and health required training:

1910.66	Powered Work Platforms
1926.453	Vehicle Mounted and Rotating Work Platforms
1926.951	Personal Protective Equipment
1910.134	Respiratory Protection
1926.21	Confined Space
1910.147	Lockout Tagout
1910.151	Medical Services and First Aid
1910.157	Portable Fire Extinguishers
1910.178	Powered Industrial Trucks (Equipment)
1910.252	Welding, Cutting and Brazing
1910.269	Electrical Power Generation, Transmission, and Distribution
1910.332	Electrical
1910.410	Diving Operations
1910.1096	Ionizing Radiation (also 1926.53)
1910.1200	Hazard Communication - employees shall be trained on the hazards of the chemicals to which they may be exposed.
1926.20	General Safety and Health Provisions
1926.52	Occupational Noise Exposure/Hearing Conservation (see Table 3-1, KNPR 8715.7 for noise exposure limits)
1926.54	Non Ionizing Radiation
1926.56	Illumination
1926.302	Powder Operated Hand Tools
1926.454	Scaffolds - employees using scaffolding shall be trained on the type of scaffold being used.
1926.503	Fall Protection
1926.761	Steel Erection
1926.1060	Ladders
1926.1101 - 1152	Toxic and Hazardous Substances
FDOT	Florida Department of Transportation - Maintenance of Traffic

http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/625010010.pdf

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The following Training Certification Summary (Figure 7) may be used as a template to document and certify employee safety and health training. Columns and rows in the table should be altered or deleted as needed.

FIGURE 7: TRAINING CERTIFICATION SUMMARY EXAMPLE

Training Certification Summary (Example Format)

I, _____, of _____certify that OSHA compliant
(*Company Official Name)* *(Insert Company Name)*

employee training for the following topics is current and complete.

* Training expiration date required for these areas

Topic / Employee List	Employee 1	Employee 2	Employee 3	Etc.									
Asbestos Awareness													
Asbestos Worker*													
Asbestos Supervisor*													
Competent Person (Inspections)													
Competent Person (Other Specify)													
Confined Space Entrant													
Confined Space Attendant													
Confined Space Supervisor													
Cardio Pulmonary Resuscitation (CPR)													
Crane Operator													
Crane (Competent Person)													
Diving Operations													
Electrical Safety													
Electrical (Qualified Person)													
First Aid													
Excavation (Competent Person)													
Excavation (Qualified Person)													
Fall Protection													
Fall Protection (Competent Person)													
Fall Protection (Qualified Person)													

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Hazard Communication													
Hazardous Substances (Per 29 CFR 1926.1101-1152)													
Hearing Loss Prevention & Hazardous Noise													
Heavy Equipment Operator (Specify)													
Ladders													
Lockout/Tagout													
Maintenance of Traffic													
Personal Protective Equipment													
Portable Fire Extinguishers													
Powder Operated Hand Tools													
Powered Industrial Trucks													
Powered Work Platforms													
Qualified Person (Other *Specify*)													
Radiation Safety													
Respiratory Protection*													
Scaffold Builder													
Scaffold (Competent Person)													
Scaffold (Qualified Person)													
Scaffold User													
Steel Erection													

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8.0 JOB HAZARD ANALYSIS SAMPLE (NASA KSC FORMAT)

In accordance with KNPR 8715.7, section 2.16, Job Hazard Analysis (JHA):

a. Prior to the start of work, the contractor shall perform a job hazard analysis of all tasks to be performed by the contractor and their sub-contractors.

b. The completed JHA(s) shall be provided to CO as an appendix to the SSSP and reviewed by the Center Safety Office prior to the start of any on-site work.

NOTE: JHAs are living documents and should be reviewed, updated, and discussed with employees when changes occur in work tasks, alternate equipment is being used, or when alternate methods of performing the task are being considered such as using aerial lifts in place of scaffolding.

Figure 8, below, is a sample of a JHA.

8.1 JOB HAZARD ANALYSIS (ELECTRICAL WORK) EXAMPLE

In accordance with KNPR 8715.7, section 3.5.5, Energized Electrical Work Analysis and Authorization Permit Contents, specific additional requirements regarding JHAs are required for energized electrical work.

Figure 9, below, contains guidelines for completing an Electrical JHA.

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FIGURE 8: SAMPLE JOB HAZARD ANALYSIS

Company: Company X *Project Name: Refurbish HQ Building* *Contract Number: NNK1012345A*	**Work Process:** **General Construction Operations Work**	
Task	**Hazard Description**	**Preventive Control Measures**
Operating machinery, equipment, and powered hand tools.	• Unqualified and/or untrained operators.	• Only qualified and authorized personnel operate equipment. Know and utilize the manufacturer's operating, maintenance, and safety procedures.
	• Flying debris, dust, wood chips, or metal shavings getting into the eyes.	• Conduct visual check of equipment and examine all powered tools for proper safeguards (e.g., blade guards, shields, or stops). Use PPE as required (e.g., ear protection, goggles, face shield, safety shoes, work gloves).
	• Loose clothing pulled into moving parts.	• Do not wear loose clothing, neck ties, etc.
	• Electrical shock hazards	• Check electrical cords for three prongs to ensure there is a ground. Use Lockout/Tagout (LO/TO) as required. Keep cords and hoses away from heat, oil, and sharp edges. Do not allow doors to shut on cords or hoses. Never carry a power tool by the cord or yank the cord to disconnect it from the power receptacle. Tag all damaged tools as "Danger – Do Not Use or Operate".
	• Motion hazards (e.g., rotating devices, cutting, or shearing blades).	• Keep fingers and hands away from pinch point areas. Ensure work area has adequate spacing and lighting.
	• Injury from slips, trips, falls, and dropped materials (e.g., water, oil, or dust).	• Maintain proper footing and balance while operating machinery. • Clean work place, equipment, and tools
Working with sharp cutting objects, blades/knives, tools, etc.	• Cuts, lacerations, amputations, and punctures.	• Ensure cutting blade surfaces are maintained. Maintain correct posture/position while cutting. Cut out and away from the user's body. Stow sharp/pointed tools in properly when not in use.
Using liquid fueled equipment.	• Inhaling toxic fuel vapors.	• Have adequate ventilation to prevent fume build up

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	• Fire and/or explosion. • Fuel spilled onto clothing, body, and/or eyes.	• Allow equipment to properly cool before re-fueling. Use approved fuel containers for stowing and service. Use grounding / bonding when required. • Where fuel may splash/drip during transfer, wear chemical splash goggles. Ensure a shower / eyewash station is readily available.
Working with or near noisy machinery or equipment	• Noise induced hearing loss and/or tinnitus (ringing)	• Conduct noise survey. Place sound barrier before using equipment. Use reduced noise equipment. Maintain equipment noise control features. Wear the proper PPE when operating the machinery.
Pneumatic tools using compressed air.	• Eye injury, lacerations, punctures, and amputations.	• Ensure trained personnel use the equipment. Follow manufacturer's instructions when operating equipment. Use the manufacturer's recommended air pressure. Wear required eye protection.
Power up and power down operations.	• Injury due to movement of equipment, electrical malfunction, improper operation, and/or cuts, burns, etc. from tools during operation.	• Ensure equipment is mounted and secured properly. Inspect wiring, controls, and avoid moving parts or sharp edges on equipment or tools. Follow manufacturer's instructions when operating equipment.
Welding and/or cutting using portable gas units. Includes brazing, oxy/acetylene, etc.	• Exposure of oxygen cylinders and fittings to oil or grease, creating a fire or explosion hazard. • Pointing welding/cutting torches at a concrete surface causing flying fragments of concrete. • Inhalation of toxic fumes or vapors from welding metals or alloys. • Fires, explosions, severe eye and skin burns, and injuries from welding operation in the proximity of combustible solids, dust, gases, air, and chemicals.	• Never use grease, cleaning solvents, or other flammable material on an oxygen valve, regulator or piping. Ensure hoses are visually checked for wear, oil/grease before use. • Follow manufacturer's procedures with respect to the sequence of operations in lighting, adjusting, and turning off torch flame. • Identify and use required PPE. • Shut off gas and oxygen when not in use. Open valves slowly. Ensure proper ventilation. Purge hoses only in open spaces away from ignition sources. When welding/brazing a cylinder, ensure it is free of all gases, oils, flammables. Do not use flame within 50 feet of flammables. Receive a hot work permit. Use PPE to minimize skin burns; e.g., pants that will cover tops of boots, flame resistant gloves, apron, leggings, certified welding/cutting goggles/face helmet. If required, ensure respirator is used.

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Operation using portable electric welding units.	• Electrical shock. • Inhalation of toxic fumes or vapors from welding metals or alloys. • Fires, explosions, severe eye and skin burns, and other injuries from welding operation that is in proximity of combustible solids, dust, gases, air, and chemicals.	• Ensure circuits are de-energized and components are grounded. Inspect switches, power cables, electrode holders for damage. • Wear certified welding and cutting goggles or face helmet as required. If required, ensure proper respirator is provided. • Use PPE to minimize skin burns, e.g., steel-toed boots, pants which cover tops of boots, flame resistant gloves, apron, and leggings. Inspect area for tripping hazards. Only a certified welder is authorized to use equipment and perform task. Assure that personnel are adequately trained and good housekeeping is practiced
Materials handling (manual) and moving.	• Personnel injuries due to load handling. • Load Variables: load distribution, weight, size, shape, shift of the load in the container, and center of gravity. • Work Place Layout: degree of movement required, obstacles, distances moved, and direction of movement • Individual Physical Variables: strength, mobility, fatigue, and motor functions. Pre-existing injuries - strains, sprains, hernias, fractures, and bruises.	• Wear all required PPE properly (e.g., safety shoes/boots, leather work gloves). • Perform pre-inspection of item to be handled to determine number of persons required to assist. Consider size / shape of object being lifted. • When using a hand truck, and secure all items • Perform inspection of area for environmental hazards such as slipping and tripping hazards. • Execute proper lifting techniques. • Train employees on personal limitations.
Crane Operations: load testing, inspection and certification.	• Unknown conditions allowing the crane to fail causing injury to personnel and damage to property.	• Verify load test data on crane and that the required preventive maintenance inspections (PMI) have been conducted. Conduct “Daily” inspection of crane and components prior to lift; giving special attention to the hook, hoist rope, sheaves, rope guides, and cable winding on drum. Verify the certification of the crane operator, riggers and flagman.
Inspect slings, spreader bars, shackles, and all other rigging to be used.	• Rigging failure if damaged, not certified, or misused. Slips, trips, and back strain potential for personnel inspecting the rigging.	• Verify / document load test dates on and visually inspect all rigging. Assure that rigging selected matches rigging identified. If inspection requires moving the rigging, use proper lifting techniques

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		and use additional persons when needed.
Relocating or transporting the portable crane.	• Electrocution from overhead power lines and equipment damage from overhead bridges, etc.	• Ensure security vehicles and equipment are clear of route; front, side, and rear. Secure required permits to convoy before move date. Front and rear escorts with security to provide safe traffic control along convoy streets and traffic light intersections. The route of travel shall be cleared before date of convoy, e.g., clearance of all electrical, phone, cables, and traffic signals/wires. Convoy will have electric company traveling with it to raise/reposition wires and signals on the approved route and it will not exceed maximum approved speed.
Crane lifting operations.	• Injury or equipment damage due to falling/dropped material or collision with equipment or personnel. Electrocution and equipment damage from overhead power lines, etc.	• Perform operations per procedure; ensure proper field of view is adequate or have crew with radio communications directing the crane operation. Ensure warning lights are operational, load is properly positioned, and personnel are cleared from area. Be aware of the crane parameters and the space restrictions in the lift path. For portable cranes, ensure the outriggers are fully extended on a stable surface.
Working outdoors	• Can result in heat related illnesses such as heat syncope, heat exhaustion and heat stroke.	• hydration before and during work activities, water supply near workers, work breaks depending on conditions, effort, and other risk factors.
Working at night and/or where no or limited natural light is present.	• Unsafe or incorrect action from reduced light. Evacuation or escape challenges.	• Provide adequate area lighting and/or supplemental lighting that may include task lighting to provide safe escape and/or adequate illumination for visual task.

Areas of Emphasis:

1. Analyze task and understand technical requirements for selection of proper tools, materials, and placement of operating equipment.
2. Always follow the manufacturer's instructions when operating equipment.
3. Preventive Maintenance Inspections (PMI) will be accomplished on all operated equipment in the performance of work.
4. Ensure the proper selection of protective gloves for use with solvents/chemicals; for determination of respiratory protective equipment when an inhalation hazard exists; for assessment of ergonomic hazards; assessment of noise hazards; and assessment of heat stress hazards.
5. Ensure updates of JHA when any new equipment, operations, or processes are to be performed that are not already described in this JHA.

Contractor Site Superintendent Review & Approval: _____ **Date:** _____

Contractor Site Safety Officer Review & Approval: _____ **Date:** _____

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FIGURE 9: ELECTRICAL JOB HAZARD ANALYSIS (JHA) GUIDELINES

***Company Name* – Electrical Job Hazard Analysis (JHA)**		
Project*: List Project Name*		**Contract Number*: List Contract Number***
Activity (Job Task): Provide Job or Task Description		*Analysis Completed By: Name of Electrical Qualified Person*
1. Procedure Step	**2. Potential Safety & Health Hazards**	**3. Preventive Control Measures**
1. List each procedural step to be performed for this job/task 2. 3. 4. 5. 6. 7. 8. 9.	1. List each corresponding hazard relating to each step in the procedure. 2. Recommend use of 1A, 1B, 1C to identify multiple hazards per task. 3A. 3B. 3C. 4. 5. 6. 7. 8. 9.	1. List each corresponding control measure relating to each step in the procedure. 2. Recommend use of 1A, 1B, 1C to identify multiple control measures per task. 3A. 3B. 3C. 4. 5. 6. 7. 8. 9.

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Company Name – Electrical Job Hazard Analysis (JHA) Contract Number*: List Contract Number*		
4. PPE/Equipment Used	**5. Inspection Requirements**	**6. Employee Training Requirements**
☐ HAZ Category 0:Clothing of non-flammable / melting material ☐ HAZ Category 1: FR shirt and FR pant or FR coverall ☐ HAZ Category 2: FR shirt and pant or coverall and cotton underwear ☐ HAZ Category 3: FR shirt, pant, coverall and cotton underwear ☐ HAZ Category 4: FR shirt, pant, cotton underwear and double layer switching coat and pants ☐ Class II Voltage Rated Gloves ☐ Type E Hardhat ☐ Safety Glasses ☐ Hearing Protection ☐ Level II Face Shield ☐ EH Rated Safety Shoes ☐ Insulating Blankets ☐ Insulated Tools ☐ Insulated Rescue Hooks ☐ Boundary Barricades ☐ Cones, Warning Tape, Signage	Daily inspections are performed on all PPE and Equipment and periodic maintenance is performed in accordance with manufacturer's recommendations and 29CFR1910.137. List other or company specific inspection requirements	All employees performing work in association with this JHA have received from a qualified person training in accordance with 29CFR1910.332 and NFPA 70E-110.6 (a roster of employees names and signatures is attached certifying that training listed above has occurred). Employees will be briefed on this JHA prior to any work commencing. List additional or company specific training required.

INSTRUCTIONS:

1. Procedure Step: List and number each work step procedure for the job or task.
2. Potential Safety and Health Hazards: List with corresponding number the hazard for each step of the process.
3. Preventive Control Measures: List with corresponding number the control measure used to mitigate or eliminated identified hazards.
4. PPE / Equipment Used: Check PPE and equipment to be used during the during the work task.
5. Inspection Required: Identify the inspection requirements performed for the PPE / Equipment Used.
6. Employee Training Requirements: Identify the required training employees have received to be able to perform job tasks in a safe manner.

Contractor Electrical Qualified Person Signature: _____ **Date:** _____

Contractor Site Supervisor Review & Approval: _____ **Date:** _____

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8.2 HAZARD CONTROL MEASURES (FOR USE IN DEVELOPING JHAS)

Information obtained from a job hazard analysis is useless unless hazard control measures recommended in the analysis are incorporated into the tasks. Managers should recognize that not all hazard controls are equal. Some are more effective than others at reducing the risk.

The order of precedence and effectiveness of hazard control is the following:

1. Engineering controls

2. Administrative controls

3. Personal protective equipment

8.2.1 Engineering Controls

Engineering controls include but are not limited to the following:

a. Elimination/minimization of the hazard -- Designing the facility, equipment, or process to remove the hazard, or substituting processes, equipment, materials, or other factors to lessen the hazard;

b. Enclosure of the hazard using enclosed cabs, enclosures for noisy equipment, or other means;

c. Isolation of the hazard with interlocks, machine guards, blast shields, welding curtains, or other means; and

d. Removal or redirection of the hazard such as with local and exhaust ventilation.

8.2.2 Administrative Controls

Administrative controls include but are not limited to the following:

a. Written operating procedures, work permits, and safe work practices

b. Exposure time limitations (used most commonly to control temperature extremes and ergonomic hazards)

c. Monitoring the use of highly hazardous materials

d. Alarms, signs, and warnings

e. Buddy system

f. Training

8.2.3 Personal Protective Equipment

a. The use of respirators, hearing protection, protective clothing, safety glasses, and hardhats are acceptable as control methods in the following circumstances:

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(1) When engineering controls are not feasible or do not totally eliminate the hazard;

(2) While engineering controls are being developed;

(3) When safe work practices do not provide sufficient additional protection; and

(4) During emergencies when engineering controls may not be feasible.

b. Use of one hazard control method over another higher in the control precedence may be appropriate for providing interim protection until the hazard is abated permanently. In reality, if the hazard cannot be eliminated entirely, the adopted control measures will likely be a combination of all three items instituted simultaneously.

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9.0 THE LOCKOUT/TAGOUT INSTRUCTION FORM (KSC FORM 28-975)

Requirements for Lockout/Tagout to be addressed in the SSSP are in KNPR 8715.3, Kennedy Safety Practices Procedural Requirements. An example of a Lockout Tag (Figure 10) and sample of Lockout/Tagout Instruction (Figure 11) follow.

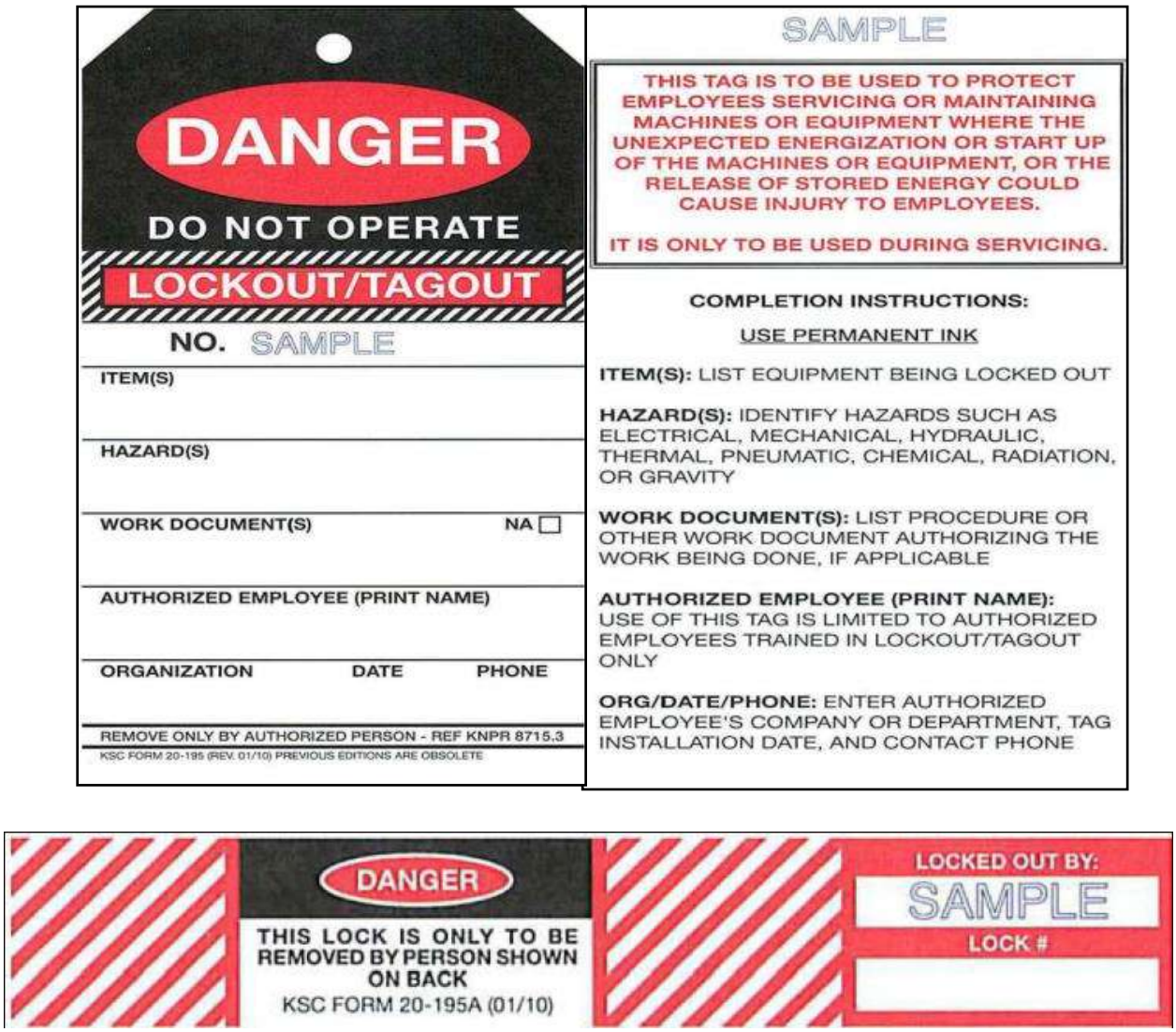

FIGURE 10: SAMPLE KSC FORM 20-195, LOCKOUT/TAGOUT TAG

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Lockout/Tagout Instruction

Step 1: Identify equipment.

Equipment/Machine:	Location:
Location:	

Step 2: Notify all affected personnel (operators/users of the equipment and/or personnel who work in the area that a Lockout/Tagout is in effect.)

Step 3: Shut down the equipment energy source(s) listed below.

Energy Source	Shut Off Point	Location

Step 4: Isolate the machine or equipment from the energy source(s) listed below.

Energy Source	Energy Isolating Device	Location	Item(s) to Secure

Step 5: Apply lock and tag to energy isolating device(s) listed in Step 4. If equipment cannot be locked out, obtain S&H approval for tagout only.

Step 6: Release or control stored energy.

Type of Energy Source	Method to Release / Control Energy

Step 7: Verify zero energy state (isolation of the equipment). Attempt to operate the equipment to verify equipment cannot be operated.

CAUTION: Return operating control(s) to neutral or off position after verifying isolation of the equipment.

Step 8: Perform maintenance task in a safe manner.

Step 9: Remove locks and/or tags. Verify all personnel are clear and accounted for prior to lockout removal.

Step 10: Notify all affected personnel (operators/users of the machine and/or personnel who work in the area that power is being restored to equipment.

Step 11: Restore power and verify proper equipment operation before departing.

Completed By: (Name)		Date	
Approved By: (Name)		ID No.	

Note: Approval authority must be the first level supervisor or above.

KSC FORM 28-975 NS (REV. 04/05) PREVIOUS EDITIONS ARE OBSOLETE

FIGURE 11: LOCKOUT/TAGOUT INSTRUCTIONS

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10.0 ENERGIZED ELECTRICAL WORK ANALYSIS AND AUTHORIZATION PERMIT

Section 3.5.5 of KNPR 8715.7 details requirements for Energized Electrical Work Analysis and Authorization Permits. A sample permit has been provided below (Figure 12).

FIGURE 12: ENERGIZED ELECTRICAL WORK ANALYSIS AND AUTHORIZATION PERMIT

ENERGIZED ELECTRICAL WORK ANALYSIS & AUTHORIZATION PERMIT
This form when completed will meet the requirements listed in NFPA 70E, Chapter 1, Article 130

ENERGIZED ELECTRICAL WORK ANALYSIS & AUTHORIZATION PERMIT

This form when completed will meet the requirements listed in NFPA 70E, Chapter 1, Article 130

Project Name		Contract Number	PCN
Facility Name	Building Number	Specify Work Location	Date of Request
Electrical Equipment and/or Circuit Description			
Energized Task Description *(Describe in detail)*			
Justification for Energized Task (Why Circuit/System Cannot be De-energized and Locked/Tagged Out) *(Use page 2 as necessary for thorough justification)*			
Preparer's Name (Qualified Electrical Person)		Site Supervisor or Management Representative	
Signature	Date	Signature	Date
Comments			

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Justification for Energized Task (Why Circuit/System Cannot be De-energized and Locked/Tagged Out)
(Use page 2 as necessary for thorough justification)

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Hazard Analysis

1. Maximum exposure in Volts _____ Maximum Amperage kA _____ Fault Clear Time _____ (cycles)

2. Energized Exposure Hazard (Working on or near):

Bare Bus	__	Open Terminals	__	NEMA E2 Motor Starters	__
Bare Conductor	__	Panel boards	__	Metal Clad Switch gear	__
Open circuit(s)	__	Switch boards	__	Other	__

Describe an Other Entry

_____

_____

3. Shock Hazard Analysis

_____

_____

a. Limited Approach Boundary _____

b. Restricted Approach Boundary _____

c. Prohibited Approach Boundary _____

4. Flash Hazard Analysis:

Flash Protection Boundary _____ Incident Energy Value _____

5. Hazard Risk Category: 0 __ 1 __ 2 __ 3 __ 4 __

6. PPE Minimum FR Rating _____

7. Required PPE:

V Rated Gloves	__	V Rated Tools	__	Face Shield	__	Leather Shoes	__
FR Shirt	__	FR Pants	__	Leather Gloves	__	Flash Suit	__
Hard Hat	__	Hearing Protection	__	Coveralls	__	Flash Hood	__

Specify Hearing Protection Type: Ear Plugs __ Ear Muffs __ Both __

8. Engineering/Administrative Controls Planned to Reduce/eliminate Exposure to energized Equipment:
(A Complete Electrical Work Job Hazard Analysis [E-JHA] is completed and submitted with this section)

9. Hazard Analysis completed by:

Printed name	Signature	Date

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Page 3 of 4

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PRE-TASK BRIEFING (To include job specific hazards)

Conducted By _____ Date _____

Attendees _____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

INSTRUCTIONS

Hazard Analysis shall be completed by a qualified Electrical Engineer

Project Name	Self Explanatory
Contract Number / PCN	Self Explanatory
Facility Name / bldg. Number	Self Explanatory
Specific Work Location	List location (facility, floor, room number). If outside, provide directions to site.
Date of Request	Enter the date the worksheet was initially submitted
Electrical Equipment Description	Give the specific name(s), number(s), (main switch number, panel number, etc.)
Energized Task Description	Give specific details of what the task is, "Validate circuit breakers for panel number, pull wires from panel, remove supply side lines from, etc.)
Justification for Energized Task	List specifics that demonstrates why de-energizing introduces additional or increased hazards or is infeasible due to equipment design operational limitations (Required by NFPA 70E)
Preparer's name	Contractor Qualified Electrical Person to perform the work
Site Supervisor or Management Rep.	Representative from the prime contractor (i.e., President, Safety Manager, etc.)
Hazard Analysis	Results of the shock hazard analysis and determination of shock protection boundaries. Results of the flash hazard analysis and determination of flash protection boundaries. (The Government will provide available information on applied system voltage, upstream circuit protective device settings, cabling distances and sizes, and available fault current, as required supporting shock hazard and flashing hazard analyses.) A description of the safe work practices to be employed.
Hazard Analysis Completed By	Self Explanatory
Pre-Task Briefing	Enter briefer name, date briefing held, and signatures of all qualified (electricians) and non-qualified personnel involved in task (HVAC, Plumbers, Carpenters, etc.)

Definitions:

Work On: Servicing, adjustments, repairs, or modifications to energized electrical equipment. Any work where the hazard analysis indicates that there is a risk of contact by tools or body parts to exposed energized components. Work on does not include testing, troubleshooting, visual or IR inspections, etc. Testing/troubleshooting is further defined as a process by which specialized equipment / devices are utilized for the purpose of diagnosing, analyzing, verification, or ensuring a system, circuit or piece of equipment is working properly or improperly.

Work Near: Any activity inside the Limited Approach Boundary as listed in NFPA 70E, Table 130.2(C).

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11.0 NOTICE OF SAFETY VIOLATION (NOSV) (KSC-KDP-F-3675)

In accordance with KNPR 8715.7, contractor jobsites are subject to inspection by KSC Safety and Health personnel. KSC construction safety specialists document site inspections and/or minor safety and health violations/noncompliances on KSC Form 50-17, NASA/KSC Safety – Site Observations Daily Log Construction Contractors. The contractor's site supervisor works with the KSC construction safety specialists, the COTR, and/or CO (depending on severity) to implement corrective action(s). For serious, willful, or repeat findings, a NOSV may be issued. The NOSV requires a formal response from the contractor.

Samples of KSC Form 50-17, NASA/KSC Safety – Site Observations Daily Log Construction Contractors (Figure 13) and KDP-KSC-F-3675, NOSV (Figure 14) have been provided below.

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NASA/KSC SAFETY - SITE OBSERVATIONS DAILY LOG
CONSTRUCTION CONTRACTORS

Project:	PCN / Contract Number:	Safety Specialist:
Prime Contractor:	Site Supervisor/Superintendent:	Subcontractor(s):
Date: Time:	Contracting Officer:	COTR:

Work Performance / Observations / Hazards / Violations / Risk / Corrections

Type	Risk	Description of Activity / Non-compliance	Corrective Action

Type
1 Abatement (Lead, PCB, etc.)
2 Asbestos
3 Compressed Gases
4 Concrete & Masonry
5 Confined Spaces
6 Cranes, Derricks & Hoists
7 Demolition
8 Egress
9 Electrical
10 Environmental Controls
11 Excavation & Trenching
12 Fall Protection
13 Fire Protection / Prevention
14 General Duty Clause
15 Hand & Power Tools

Type
16 Housekeeping
17 Illumination
18 KSC Lightning Protection
19 Lockout / Tagout
20 Machine Guarding
21 Material Handling & Storage
22 Motorized Vehicles & Equip
23 Other
24 Painting / Abrasive Blasting
25 Postings (Jobsite)
26 Power Transmission
27 PPE
28 Respirator
29 Rollover Protection
30 Sanitation

Type
31 Scaffolding
32 Signs, Signals, & Barricades
33 Stairways & Ladders
34 Steel Erection
35 Temporary Structures
36 Traffic Safety (MOT)
37 Walk / Work Surfaces
38 Welding Cutting Brazing
39 Work Over / Near Water

P Permit
T Training
OC Operator Certification
CP Competent Person
QP Qualified Person

Risk Code
NASA 5x5 Risk Matrix on reverse of form to determine risk level of violation

Corrective Action
Corrected Immediately (CI)
Correction Pending (CP)
Meeting Requested (MR)
Notice of Safety Violation

Safety Specialist Initials/Signature

Site Supervisor / Representative Signature *

* Signature requested only when safety violation occurs. Write name of representative if he/she chooses not to sign.
Signature by Contractor Representative does not constitute agreement with the violation, only that he/she has been informed.

KSC FORM 50-17 NS (02/09)

FIGURE 13: NASA/KSC SAFETY – SITE OBSERVATION DAILY LOG

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FIGURE 14: KSC CONSTRUCTION PROJECT NOTICE OF SAFETY VIOLATION (NOSV)

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KSC CONSTRUCTION PROJECT NOTICE OF SAFETY VIOLATION (N.O.S.V.)

PART 1 – TO BE COMPLETED BY NASA SAFETY REPRESENTATIVE

1. DATE:	2. CONTROL NUMBER:
3. CONTRACT NUMBER:	4. VIOLATION TYPE/RISK CODE:
5. FACILITY NAME OR NUMBER:	6. SPECIFIC LOCATION WITHIN OR NEAR FACILITY:
7. PRIME CONTRACTOR COMPANY NAME:	8. SUBCONTRACTOR COMPANY NAME (If applicable):
9. PRIME CONTRACTOR SITE SUPERINTENDENT OR SAFETY OFFICAL & PHONE NO:	10. SUBCONTRACTOR SITE SUPERINTENDENT (if applicable) & PHONE NO:

11. UNSAFE OR UNHEALTHFUL CONDITION:

Describe the condition, the specific safety violation, and the specific requirement being violated (i.e., OSHA, NASA, KSC, etc.)

☐ Check box if this violation may affect the Safety Bonus Award

(continue on continuation page if necessary)

12. ACTIONS TAKEN TO TEMPORARILY ABATE THE HAZARD:

(continue on continuation page if necessary)

13. INITIAL RESPONSE DUE: ☐ 8 HRS ☐ 24 HRS ☐ 72 HRS

14. NASA SAFETY SIGNATURE, MAIL CODE, AND DATE:

15. NASA CONTRACTING OFFICER TECHNICAL REPRESENTATIVE (COTR) SIGNATURE, MAIL CODE, AND DATE:

16. NASA CONTRACTING OFFICER SIGNATURE, MAIL CODE, AND DATE:

PART 2 – CONTRACTOR ACKNOWLEDGEMENT OF RECEIPT

17. PRIME CONTRACTOR SITE SUPERINTENDENT OR SAFETY OFFICIAL SIGNATURE, MAIL CODE, AND DATE:

Original – Prime Contractor Site Superintendent
Copies – NASA Institutional Safety and Quality Branch; Contracting Officer (CO); COTR; inspector; and Prime Contractor General Manager, President, or owner.

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PART 3 – TO BE COMPLETED BY CONTRACTOR AND RETURNED TO CONTRACTING OFFICER WITHIN TIME SPECIFIED ABOVE IN PART 1 – BLOCK 13.
18. CORRECTIVE ACTION TAKEN OR PLANNED: Include all actions taken/planned to correct the violation at the jobsite and corrective actions taken/planned to ensure that this will not happen again. For planned actions, provide the proposed/estimated completion date.
19. PRIME CONTRACTOR SITE SUPERINTENDENT OR SAFETY OFFICIAL SIGNATURE AND DATE:
PART 4 - APPROVAL OF CORRECTIVE ACTIONS TAKEN AND/OR PLANNED
20. NASA SAFETY SIGNATURE, MAIL CODE, AND DATE:
21. NASA COTR SIGNATURE, MAIL CODE, AND DATE:
22. NASA CO SIGNATURE, MAIL CODE, AND DATE:
PART 5 - VERIFICATION THAT ACTION ITEMS ARE COMPLETE
23. ☐ Check when all corrective actions specified in item 18 are complete and implemented. **PRIME CONTRACTOR SITE SUPERINTENDENT OR SAFETY OFFICIAL SIGNATURE, MAIL CODE, AND DATE:**
24. NASA SAFETY SIGNATURE, MAIL CODE, AND DATE:
25. NASA COTR SIGNATURE, MAIL CODE, AND DATE:
26. NASA CO SIGNATURE, MAIL CODE, AND DATE:

Original – Prime Contractor Site Supervisor
Copies – NASA Institutional Safety and Quality Branch; Contracting Officer (CO); COTR; inspector; and Prime Contractor General Manager, President, or owner.

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PART 5 – CONTINUATION SHEET
BLOCK 11 CONTINUATION - UNSAFE OR UNHEALTHFUL CONDITION
BLOCK 12 CONTINUATION - ACTIONS TAKEN TO TEMPORARILY ABATE THE HAZARD:
BLOCK 18 CONTINUATION - CORRECTIVE ACTION TAKEN OR PLANNED: Include all actions taken/planned to correct the violation at the jobsite and corrective actions taken/planned to ensure that this will not happen again. For planned actions, provide the proposed/estimated completion date.

Original – Prime Contractor Site Supervisor
Copies – NASA Institutional Safety and Quality Branch; Contracting Officer (CO); COTR; inspector; and Prime Contractor General Manager, President, or owner.

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12.0 NASA DIRECT CONSTRUCTION CONTRACTOR MISHAP REPORT (KDP-F-3645)

In accordance with KNPR 8715.7, section 2.3, item g and h:

Initial notification / report for mishaps and close calls shall include all available information such as the time of the incident, the location, a description of the event, the organization(s) involved, preliminary worst case estimate of the injuries and direct cost estimate, causal factors (if known) and initial corrective/hazard mitigating actions taken.

The contractor shall submit to the NASA Safety Office a completed KSC Direct Construction Contractors Mishap Report (KDP-F-3645) by e-mail or fax (867-1120) within 4 hours of a Mishap / Close Call.

Completion of KDP-F-3645 (Figure 15) as instructed satisfies this requirement.

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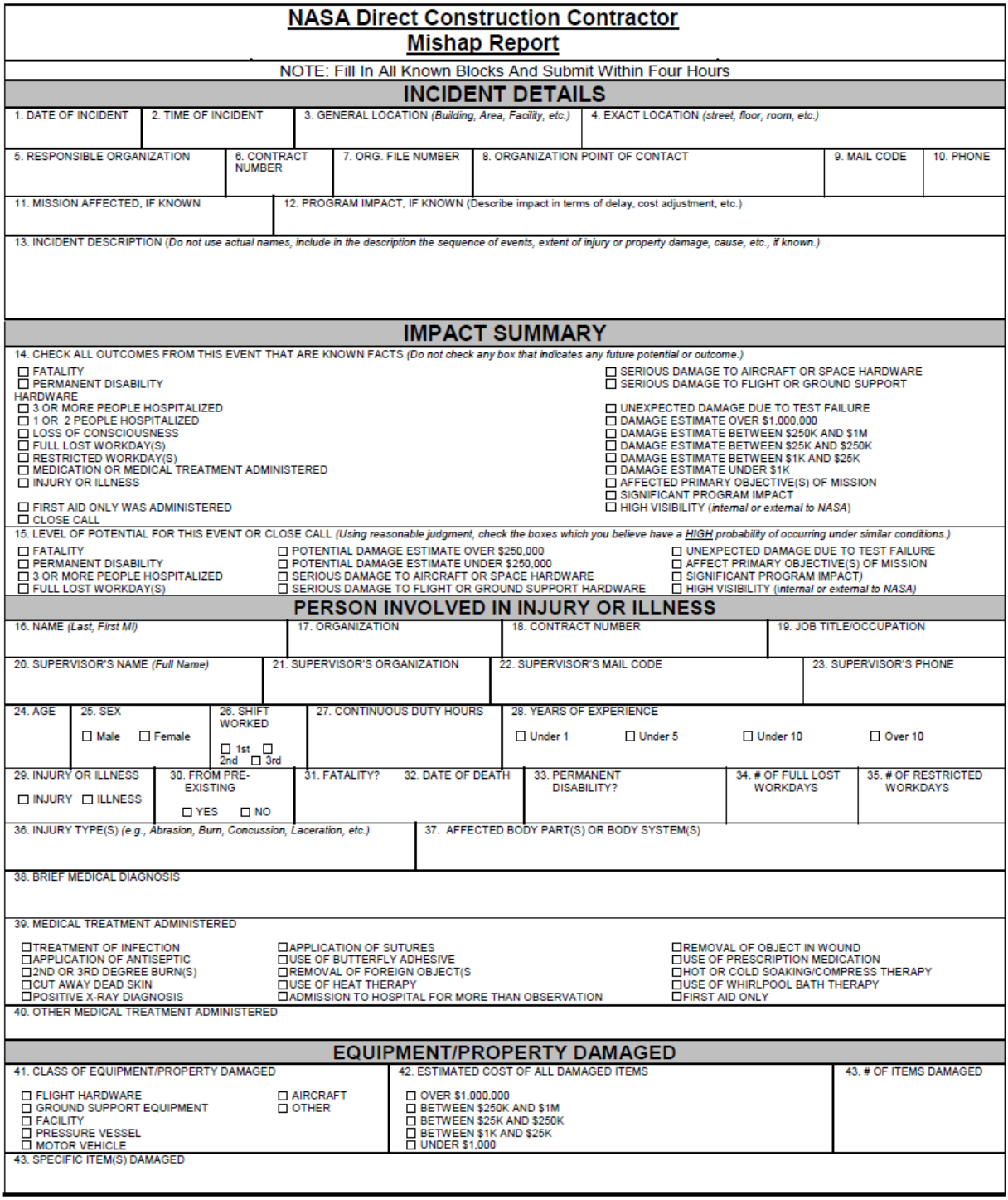
FIGURE 15: NASA DIRECT CONSTRUCTION CONTRACTOR MISHAP REPORT



NASA Direct Construction Contractor Mishap Report

NOTE: Fill In All Known Blocks And Submit Within Four Hours

INCIDENT DETAILS

1. DATE OF INCIDENT	2. TIME OF INCIDENT	3. GENERAL LOCATION *(Building, Area, Facility, etc.)*	4. EXACT LOCATION *(street, floor, room, etc.)*

5. RESPONSIBLE ORGANIZATION	6. CONTRACT NUMBER	7. ORG. FILE NUMBER	8. ORGANIZATION POINT OF CONTACT	9. MAIL CODE	10. PHONE

11. MISSION AFFECTED, IF KNOWN	12. PROGRAM IMPACT, IF KNOWN (Describe impact in terms of delay, cost adjustment, etc.)

13. INCIDENT DESCRIPTION (*Do not use actual names, include in the description the sequence of events, extent of injury or property damage, cause, etc., if known.)*

IMPACT SUMMARY

14. CHECK ALL OUTCOMES FROM THIS EVENT THAT ARE KNOWN FACTS *(Do not check any box that indicates any future potential or outcome.)*

- ☐ FATALITY
- ☐ PERMANENT DISABILITY
- ☐ 3 OR MORE PEOPLE HOSPITALIZED
- ☐ 1 OR 2 PEOPLE HOSPITALIZED
- ☐ LOSS OF CONSCIOUSNESS
- ☐ FULL LOST WORKDAY(S)
- ☐ RESTRICTED WORKDAY(S)
- ☐ MEDICATION OR MEDICAL TREATMENT ADMINISTERED
- ☐ INJURY OR ILLNESS
- ☐ FIRST AID ONLY WAS ADMINISTERED
- ☐ CLOSE CALL
- ☐ SERIOUS DAMAGE TO AIRCRAFT OR SPACE HARDWARE
- ☐ SERIOUS DAMAGE TO FLIGHT OR GROUND SUPPORT HARDWARE
- ☐ UNEXPECTED DAMAGE DUE TO TEST FAILURE
- ☐ DAMAGE ESTIMATE OVER $1,000,000
- ☐ DAMAGE ESTIMATE BETWEEN $250K AND $1M
- ☐ DAMAGE ESTIMATE BETWEEN $25K AND $250K
- ☐ DAMAGE ESTIMATE BETWEEN $1K AND $25K
- ☐ DAMAGE ESTIMATE UNDER $1K
- ☐ AFFECTED PRIMARY OBJECTIVE(S) OF MISSION
- ☐ SIGNIFICANT PROGRAM IMPACT
- ☐ HIGH VISIBILITY (*internal or external to NASA*)

15. LEVEL OF POTENTIAL FOR THIS EVENT OR CLOSE CALL *(Using reasonable judgment, check the boxes which you believe have a HIGH probability of occurring under similar conditions.)*

- ☐ FATALITY
- ☐ PERMANENT DISABILITY
- ☐ 3 OR MORE PEOPLE HOSPITALIZED
- ☐ FULL LOST WORKDAY(S)
- ☐ POTENTIAL DAMAGE ESTIMATE OVER $250,000
- ☐ POTENTIAL DAMAGE ESTIMATE UNDER $250,000
- ☐ SERIOUS DAMAGE TO AIRCRAFT OR SPACE HARDWARE
- ☐ SERIOUS DAMAGE TO FLIGHT OR GROUND SUPPORT HARDWARE
- ☐ UNEXPECTED DAMAGE DUE TO TEST FAILURE
- ☐ AFFECT PRIMARY OBJECTIVE(S) OF MISSION
- ☐ SIGNIFICANT PROGRAM IMPACT)
- ☐ HIGH VISIBILITY (*internal or external to NASA*)

PERSON INVOLVED IN INJURY OR ILLNESS

16. NAME *(Last, First MI)*	17. ORGANIZATION	18. CONTRACT NUMBER	19. JOB TITLE/OCCUPATION

20. SUPERVISOR'S NAME *(Full Name)*	21. SUPERVISOR'S ORGANIZATION	22. SUPERVISOR'S MAIL CODE	23. SUPERVISOR'S PHONE

24. AGE	25. SEX	26. SHIFT WORKED	27. CONTINUOUS DUTY HOURS	28. YEARS OF EXPERIENCE
	☐ Male ☐ Female	☐ 1st ☐ 2nd ☐ 3rd		☐ Under 1 ☐ Under 5 ☐ Under 10 ☐ Over 10

29. INJURY OR ILLNESS	30. FROM PRE-EXISTING	31. FATALITY? 32. DATE OF DEATH	33. PERMANENT DISABILITY?	34. # OF FULL LOST WORKDAYS	35. # OF RESTRICTED WORKDAYS
☐ INJURY ☐ ILLNESS	☐ YES ☐ NO				

36. INJURY TYPE(S) *(e.g., Abrasion, Burn, Concussion, Laceration, etc.)*	37. AFFECTED BODY PART(S) OR BODY SYSTEM(S)

38. BRIEF MEDICAL DIAGNOSIS

39. MEDICAL TREATMENT ADMINISTERED

- ☐ TREATMENT OF INFECTION
- ☐ APPLICATION OF ANTISEPTIC
- ☐ 2ND OR 3RD DEGREE BURN(S)
- ☐ CUT AWAY DEAD SKIN
- ☐ POSITIVE X-RAY DIAGNOSIS
- ☐ APPLICATION OF SUTURES
- ☐ USE OF BUTTERFLY ADHESIVE
- ☐ REMOVAL OF FOREIGN OBJECT(S
- ☐ USE OF HEAT THERAPY
- ☐ ADMISSION TO HOSPITAL FOR MORE THAN OBSERVATION
- ☐ REMOVAL OF OBJECT IN WOUND
- ☐ USE OF PRESCRIPTION MEDICATION
- ☐ HOT OR COLD SOAKING/COMPRESS THERAPY
- ☐ USE OF WHIRLPOOL BATH THERAPY
- ☐ FIRST AID ONLY

40. OTHER MEDICAL TREATMENT ADMINISTERED

EQUIPMENT/PROPERTY DAMAGED

41. CLASS OF EQUIPMENT/PROPERTY DAMAGED	42. ESTIMATED COST OF ALL DAMAGED ITEMS	43. # OF ITEMS DAMAGED
☐ FLIGHT HARDWARE ☐ AIRCRAFT ☐ GROUND SUPPORT EQUIPMENT ☐ OTHER ☐ FACILITY ☐ PRESSURE VESSEL ☐ MOTOR VEHICLE	☐ OVER $1,000,000 ☐ BETWEEN $250K AND $1M ☐ BETWEEN $25K AND $250K ☐ BETWEEN $1K AND $25K ☐ UNDER $1,000	

43. SPECIFIC ITEM(S) DAMAGED

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INCIDENT REPORT SUBMITTER

44. SUBMITTED BY *(Full Name)*	45. ORGANIZATION	46. MAIL CODE	47. PHONE	48. DATE	49. TIME

INCIDENT CAUSES

50. WHAT WAS THE ROOT (DIRECT) CAUSE	51. WHAT OBJECTS OR SUBSTANCES WERE INVOLVED	52. WHAT ACTIVITIES OR UNSAFE ACTS WERE IN PROGRESS

CONTRIBUTING FACTORS

53. CONTRIBUTING FACTORS (*Summarize any factors that contributed to the occurrence of the incident*)

INITIAL CORRECTIVE ACTION

54. **INITIAL** ACTION TAKEN *(Summarize the initial action(s) taken to prevent reoccurrence of the incident)*

55. DATE INITIATED	56. DATE COMPLETED	57. PERSON TAKING ACTION *(Full Name)*	58. ORGANIZATION	59. MAIL CODE	60. PHONE

PLANNED CORRECTIVE ACTION

61. **PLANNED** ACTION TO BE TAKEN *(Summarize any planned action to be taken to prevent reoccurrence of the incident.)*

62. EST. START DATE	63. EST. COMPL.	64. PERSON TAKING ACTION *(Full Name)*	65. ORGANIZATION	66. MAIL CODE	67. PHONE

68. **PLANNED** ACTION TO BE TAKEN *(Summarize any additional planned action(s) to be taken to prevent reoccurrence of the incident.)*

69. EST. START DATE	70. EST. COMPL.	71. PERSON TAKING ACTION *(Full Name)*	72. ORGANIZATION	73. MAIL CODE	74. PHONE

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Instructions

Complete the initial written report for mishaps and close calls and submit to the CO, COTR and KSC Institutional Safety within four hours of the incident occurrence. A completed investigation and final report shall be submitted within ten working days of the incident unless an extension through Institutional Safety has been requested. Retain a copy for your own files.

DETAILS

1. DATE OF INCIDENT – Enter date of the incident in MM/DD/YYYY format. Example: 6/1/2001.
2. TIME OF INCIDENT – Enter time of incident using 24-hour clock. Example: 09:30 for 9:30AM/14:15 for 2:15 PM.
3. GENERAL LOCATION – Identify the building, area, or facility where the incident occurred.
4. EXACT LOCATION – Describe the exact location of the incident. Example: Third floor, far west corridor.
5. RESPONSIBLE ORGANIZATION – Enter complete name of organization that is reporting the incident.
6. CONTRACT NUMBER – When the organization is a contractor, enter the contract number.
7. ORGANIZATION FILE NUMBER – Assign file number using your organization's unique four-character code, the mishap number (sequential) using four digits, and the fiscal year using two digits. Example: EGB1-0001-89.

8 - 10. ORGANIZATION POINT OF CONTACT, MAIL CODE, PHONE – Identify person to contact at the organization.

11. MISSION AFFECTED – Enter the name or number of the mission, program, or project affected by the mishap. Examples: STS-32; Delta 181.
12. PROGRAM IMPACT – Describe the effect on the mission, program, or project in terms of delay or significant cost adjustment. Example: Two-week launch delay.
13. INCIDENT DESCRIPTION – Describe the event including information about the extent of damage and/or injury, conditions that led to the mishap, and cause if known at this time. Specify location of facility where medical treatment was provided. DO NOT include names of persons or personal medical information.

IMPACT SUMMARY

14. ACTUAL OUTCOMES – Mark every checkbox that represents current facts about the incident.
15. LEVEL OF POTENTIAL – Mark every checkbox that represents likely outcomes for the incident.

PERSONNEL INVOLVED IN INJURY OR ILLNESS

16. NAME – Indicated the name of the injured individual.
17. ORGANIZATION – Identify the organization of the injured individual.
18. CONTRACT NUMBER – When the organization is a contractor, enter the contract number.
19. JOB TITLE/OCCUPATION – Describe the job position of the injured individual. Example: Technician

20-23. SUPERVISOR'S NAME, ORGANIZATION, MAIL CODE, & PHONE – Provide identifying information about the supervisor of the injured individual.

24. AGE – Indicate the age of the injured individual.
25. SEX – Indicate the gender of the injured individual.
26. SHIFT WORKED – Indicate the work shift of injured individual.
27. CONTINUOUS DUTY HOURS - Self-explanatory.
28. YEARS OF EXPERIENCE – Indicate the years experience of the injured individual.
29. INJURY OR ILLNESS – Symptoms acquired in 1 work shift = injury, greater than 1 work shift = illness.
30. FROM PRE-EXISTING – Indicate if the injury is associated with a pre-existing injury or condition.
31. FATALITY? – Did the incident result in a fatality ?
32. DATE OF DEATH – If the incident resulted in a fatality, indicate date of death.
33. PERMANENT DISABILITY? – Did the incident result in a permanent disability to the injured individual ?
34. # OF FULL LOST WORKDAYS – If the injury resulted in time lost from work, indicate how many days.
35. # OF RESTRICTED WORKDAYS - If the injury resulted in work restrictions, indicate how many days.
36. INJURY TYPE(S) – Indicate the type of injury to the individual (Abrasion, Burn, Strain/Sprain etc.
37. AFFECTED BODY PART(S) or BODY SYSTEM(S) – Indicate what body part(s) were affected by the incident.
38. BRIEF MEDICAL DIAGNOSIS – Indicate the initial medical diagnosis of the injured individual.
39. MEDICAL TREATMENT ADMINISTERED – Mark each box that represents treatment administered to the injured individual. Mark the checkbox for "First Aid Only" if only First Aid treatment was administered to the individual.
40. MEDICAL TREATMENT ADMINISTERED – Describe any treatment not included in box #39.

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EQUIPMENT/PROPERTY DAMAGE

41. CLASS OF EQUIPMENT/PROPERTY DAMAGED – Mark every checkbox that represents the type of damaged.
42. ESTIMATED COST OF ALL DAMAGED ITEMS – Mark one checkbox that represents the initially estimated cost of the damage including labor costs. Provide Final Cost in follow-up report.
43. # OF ITEMS DAMAGED – Indicate the number of items damaged in the incident.
43. SPECIFIC ITEM(S) DAMAGED – Identify or describe the damaged items from box #41.
Example: If the class indicated in box #41 is Flight Hardware, then the specific item could be "Orbiter/Avionics."

INCIDENT REPORT SUBMITTER

44-47. SUBMITTED BY, ORGANIZATION, MAIL CODE, & PHONE – Provide identifying information about the person filling in this form.
48-49. DATE & TIME – Enter the date and time when the form is filled in.

INCIDENT CAUSES

50. ROOT CAUSE – Indicate the root (direct) cause of the incident (see Attachment A for list).
51. OBJECTS OR SUBSTANCES INVOLVED – indicate what objects or substances were involved in the incident.
52. ACTIVITIES OR UNSAFE ACTS IN PROGRESS – Indicate any activities or unsafe acts that involved in the incident.

CONTRIBUTING FACTORS

53. CONTRIBUTING FACTORS – Indicate any factors that contributed to the occurrence of the incident. (see Attachment A for list)

INITIAL CORRECTIVE ACTION

54. INITIAL ACTION TAKEN – Indicate what initial steps have been taken to prevent the reoccurrence of the incident.
55. DATE INITIATED – Indicate the date the corrective action was initiated.
56. DATE COMPLETED – Indicate the date the corrective action was completed.
57-60. PERSON TAKING ACTION, ORGANIZATION, MAIL CODE, & PHONE - Provide identifying information about the person taking the initial corrective action.

PLANNED CORRECTIVE ACTION

61. PLANNED ACTION TO BE TAKEN – Indicate any planned actions to prevent the reoccurrence of the incident.
62. ESTIMATED START DATE – Indicate the estimated start date for any planned corrective actions.
63. ESTIMATED COMPLETION – Indicate the estimated completion date for any planned corrective actions.
64-67. PERSON TAKING ACTION, ORGANIZATION, MAIL CODE, & PHONE – Provide identifying information about the person performing the planned corrective action.
68. PLANNED ACTION TO BE TAKEN – Indicate any planned actions to prevent the reoccurrence of the incident.
69. ESTIMATED START DATE – Indicate the estimated start date for any planned corrective actions.
70. ESTIMATED COMPLETION – Indicate the estimated completion date for any planned corrective actions.
71-74. PERSON TAKING ACTION, ORGANIZATION, MAIL CODE, & PHONE – Provide identifying information about the person performing the planned corrective action.

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NASA Direct Construction Contractor Mishap Report
Attachment A: Root Cause and Contributing Factor List

COMMUNICATION: General
COMMUNICATION: Paging Warning Inadequate
COMMUNICATION: Problem Reporting/Tracking Inadequate
COMMUNICATION: Schedule Conflict
COMMUNICATION: Task Coordination/Planning Inadequate
COMMUNICATION: Task Supervision Inadequate
COMMUNICATION: Test Team Briefing Inadequate
ELECTRIC COMPONENT: Energized Machinery
ELECTRIC COMPONENT: Fuse/Substation/Bus Panel
ELECTRIC COMPONENT: Power Line/electrical Wiring
ENVIRONMENTAL/MATERIAL CONTROL: Confined Spaces
ENVIRONMENTAL/MATERIAL CONTROL: General Air Contamination
ENVIRONMENTAL/MATERIAL CONTROL: Skin Exposure To Materials
EQUIPMENT FAILURE: Design Deficiency
EQUIPMENT FAILURE: General
EQUIPMENT FAILURE: Maintenance
EQUIPMENT FAILURE: Material Defects
EQUIPMENT FAILURE: Material Failure
ERGONOMIC INJURY: Carpal Tunnel Syndrome
FIRE/EXPLOSION: Chemical Change
FIRE/EXPLOSION: Fuel/Oxidizer Near Ignition Source
FIRE/EXPLOSION: General
FIRE/EXPLOSION: High Heat Source
FIRE/EXPLOSION: Pressure Release/Implosion
HANDLING: Design Deficiency
HANDLING: Deviation from Procedure
HANDLING: General
HAZARDOUS OPERATION: Arrangement
HAZARDOUS OPERATION: Deviation from Procedure
HAZARDOUS OPERATION: General
HAZARDOUS OPERATION: Improper Clothing
HAZARDOUS OPERATION: Improper Guarding
HAZARDOUS OPERATION: Improper Illumination
HAZARDOUS OPERATION: Improper Protection
HAZARDOUS OPERATION: Improper Ventilation
HAZARDOUS OPERATION: Unsafe Equipment
HUMAN FACTORS: Distraction
HUMAN FACTORS: Fatigue
HUMAN FACTORS: General

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NASA Direct Construction Contractor Mishap Report
Appendix A: Root Cause and Contributing Factor List

HUMAN FACTORS: Lack of Attention
HUMAN FACTORS: Lack of Authority
HUMAN FACTORS: Lack of Experience
HUMAN FACTORS: Misjudgment of Conditions
HUMAN FACTORS: Safety Violation
HUMAN FACTORS: Working Environment
MACHINERY: Machine Welders
MACHINERY: Metal Grinding/Finishing
MACHINERY: Metal Shaping/Forming/Assembly
MACHINERY: Non-metal Grinding/Finishing
MACHINERY: Non-metal Shaping/Forming/Assembly
MANUAL ARC & GAS WELDER, CUTTER, OR BRAZER
MANUALLY ASSEMBLED/DISASSEMBLED: Clamps
MANUALLY ASSEMBLED/DISASSEMBLED: Connectors
MANUALLY ASSEMBLED/DISASSEMBLED: Fasteners
MANUALLY ASSEMBLED/DISASSEMBLED: Other Parts
MATERIAL HANDLING: Crane/Hoist/Conveyor/Transfer Line
MATERIAL HANDLING: Manual Material Handling
MATERIAL HANDLING: Power Material Handling Vehicle
NATURAL PHENOMENON: Earthquake
NATURAL PHENOMENON: General
NATURAL PHENOMENON: Hail
NATURAL PHENOMENON: Lightning
NATURAL PHENOMENON: Rain
NATURAL PHENOMENON: Wind
ORGANIZATIONAL DEFICIENCY: Expired Certification
ORGANIZATIONAL DEFICIENCY: General
ORGANIZATIONAL DEFICIENCY: Lack of Certification
ORGANIZATIONAL DEFICIENCY: Lack of Training
OTHER: Other
PERSONNEL CARRIERS: Highway Vehicle
PERSONNEL CARRIERS: Mobile Work Platform
PERSONNEL CARRIERS: Support Vehicle
PORTABLE TOOLS: Non-powered
PORTABLE TOOLS: Powered
PROCEDURE: General
PROCEDURE: Procedure Deficiency
PROCEDURE: Requirements Inadequate
PROCEDURE: Technical Data Deficiency

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NASA Direct Construction Contractor Mishap Report
Appendix A: Root Cause and Contributing Factor List

TOXIC MATERIAL: Design Deficiency
TOXIC MATERIAL: General
TOXIC MATERIAL: Improper Handling
WALKING WORK SURFACE: Elevated Surfaces
WALKING WORK SURFACE: Floor And Wall Opening
WALKING WORK SURFACE: Floor Surface
WALKING WORK SURFACE: Ladders
WALKING WORK SURFACE: Stairs

13.0 LIFT OPERATIONS DOCUMENTATION TEMPLATE

In accordance with KNPR 8715.7, section 3.2, item w:

> w. Crane operations involving critical lifts […] shall have a lift plan submitted for review and acceptance to the CO in consultation with the KSC Lifting Devices and Equipment Manager (LDEM) and the Institutional Safety Office (SA-E2).

A sample form, Kennedy Space Center Lift Plan for Outside Contractors, has been provided below as Figure 16.

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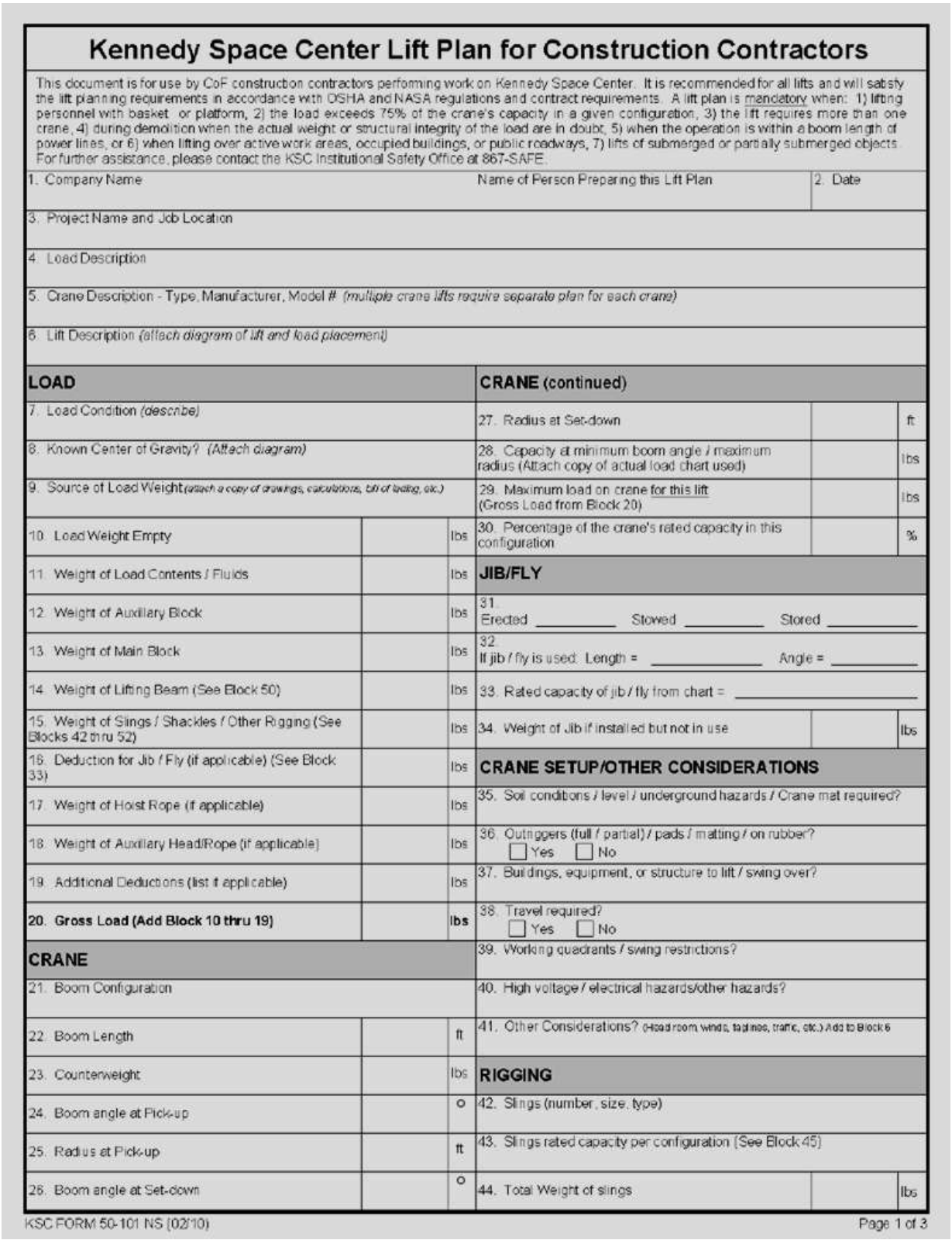
FIGURE 16: KSC LIFT PLAN FOR CONSTRUCTION CONTRACTORS



Kennedy Space Center Lift Plan for Construction Contractors

This document is for use by CoF construction contractors performing work on Kennedy Space Center. It is recommended for all lifts and will satisfy the lift planning requirements in accordance with OSHA and NASA regulations and contract requirements. A lift plan is mandatory when: 1) lifting personnel with basket or platform, 2) the load exceeds 75% of the crane's capacity in a given configuration, 3) the lift requires more than one crane, 4) during demolition when the actual weight or structural integrity of the load are in doubt, 5) when the operation is within a boom length of power lines, or 6) when lifting over active work areas, occupied buildings, or public roadways, 7) lifts of submerged or partially submerged objects. For further assistance, please contact the KSC Institutional Safety Office at 867-SAFE.

1. Company Name	Name of Person Preparing this Lift Plan	2. Date
3. Project Name and Job Location		
4. Load Description		
5. Crane Description - Type, Manufacturer, Model # *(multiple crane lifts require separate plan for each crane)*		
6. Lift Description *(attach diagram of lift and load placement)*		

LOAD			**CRANE (continued)**		
7. Load Condition *(describe)*			27. Radius at Set-down		ft
8. Known Center of Gravity? *(Attach diagram)*			28. Capacity at minimum boom angle / maximum radius (Attach copy of actual load chart used)		lbs
9. Source of Load Weight *(attach a copy of drawings, calculations, bill of lading, etc.)*			29. Maximum load on crane for this lift (Gross Load from Block 20)		lbs
10. Load Weight Empty		lbs	30. Percentage of the crane's rated capacity in this configuration		%
11. Weight of Load Contents / Fluids		lbs	**JIB/FLY**		
12. Weight of Auxiliary Block		lbs	31. Erected _____ Stowed _____ Stored _____		
13. Weight of Main Block		lbs	32. If jib / fly is used: Length = _____ Angle = _____		
14. Weight of Lifting Beam (See Block 50)		lbs	33. Rated capacity of jib / fly from chart = _____		
15. Weight of Slings / Shackles / Other Rigging (See Blocks 42 thru 52)		lbs	34. Weight of Jib if installed but not in use		lbs
16. Deduction for Jib / Fly (if applicable) (See Block 33)		lbs	**CRANE SETUP/OTHER CONSIDERATIONS**		
17. Weight of Hoist Rope (if applicable)		lbs	35. Soil conditions / level / underground hazards / Crane mat required?		
18. Weight of Auxiliary Head/Rope (if applicable)		lbs	36. Outriggers (full / partial) / pads / matting / on rubber? ☐ Yes ☐ No		
19. Additional Deductions (list if applicable)		lbs	37. Buildings, equipment, or structure to lift / swing over?		
20. Gross Load (Add Block 10 thru 19)		**lbs**	38. Travel required? ☐ Yes ☐ No		
CRANE			39. Working quadrants / swing restrictions?		
21. Boom Configuration			40. High voltage / electrical hazards/other hazards?		
22. Boom Length		ft	41. Other Considerations? (Head room, winds, tag lines, traffic, etc.) Add to Block 6		
23. Counterweight		lbs	**RIGGING**		
24. Boom angle at Pick-up		°	42. Slings (number, size, type)		
25. Radius at Pick-up		ft	43. Slings rated capacity per configuration (See Block 45)		
26. Boom angle at Set-down		°	44. Total Weight of slings		lbs

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RIGGING (continued)			REQUIRED ATTACHMENTS
45. Hitch (vertical, basket, choker) Sling Configuration Angle _____ %			53. Load placement diagram showing location of pick & final place points
46. Shackles (number, size)			54. Rigging diagram with sling angles, expected loads, & load CG
47. Shackles rated capacity			55. Photocopy of actual load charts used to calculate crane capacity
48. Total Weight of Shackles		lbs	56. Rigging certifications
49. Spreader Beam/Other rigging required? (Type, Size, Capacity)			57. Rigging load limit charts [Safe Work Load Limit]
50. Weight of Spreader Beam/other rigging		lbs	58. Crane certification (Annual/Daily Checklist)
51. Connection to Load capacity each (lugs, bollards, pad eyes, none)			59. Operators certification
52. Total Weight of all rigging (Add lines 44, 48, 50 and 51		lbs	60. Rigger certification
			61. Narrative of life procedures (See item 6)
			62. Source of load weight (See items 8 & 9)
			63. Others

Instructions for Kennedy Space Center Lift Plan for CoF Construction Contractors

1. Name of contractor performing the lift. Include name of person preparing this lift plan.
2. Date lift plan was prepared.
3. Project name and actual location of lift.
4. Describe the load and any special considerations.
5. Self-explanatory.
6. Brief description of pickup and placement of load. Attach diagrams as necessary.
7. Describe the load and any special considerations (e.g., dry, solid, filled with liquid, empty, stable, unstable, etc.).
8. Is the load's center of gravity known? If so where is it documented? Attach diagram. **(On Lift Plan Worksheet)**
9. Document the source of load weight (e.g., drawings, calculations, bill of lading, etc.).
10. - 18. Self-explanatory. **(On Lift Plan Worksheet)**
19. List all additional deductions and weights.
20. Add Block 10 through Block 19. **(On Lift Plan Worksheet)**
21. Describe boom configuration. Refer to manufacturer's terminology.
22. - 27. Self explanatory. **(On Lift Plan Worksheet)**
28. Crane's rated capacity at minimum boom angle / maximum radius. Figure worst case between pick and place.
29. Copy Gross Load from Block #20.
30. Block #29 divided by Block #28.
31. Check to indicate jib / fly erected, stowed, or stored off the crane.
32. If the Jib is used, enter the length of the boom in feet and the angle in degrees. **(On Lift Plan Worksheet)**
33. List the Jib capacity from the Fly from chart.
34. The weight of the jib if it is installed on the boom but is not being used during the lift. **(On Lift Plan Worksheet)**
35. Describe site, soil, stability conditions and any underground hazards or concerns.
36. Describe outrigger setup and required matting if applicable. **(On Lift Plan Worksheet)**
37. Describe considerations for buildings, structures, or equipment which will be under the load during the lift.
38. Describe crane travel with load on the hook if required.
39. Describe planned crane working quadrant(s) and any swing restrictions.
40. Describe any electrical hazards or concerns in close proximity to the crane.
41. Describe other considerations of note such as restricted head room, use of taglines, reduced wind limitations, traffic control, etc.
42. Describe slings to be used.
43. List the maximum rated capacity the sling can lift in lbs. **(On Lift Plan Worksheet)**
44. The weight of the sling to be used.
45. The type of hitch to be used and its sling configuration angle (choker, vertical, basket). **(On Lift Plan Worksheet)**
46. Describe shackles to be used, number and size.
47. The maximum rate capacity each shackle can lift in lbs.
48. The total weight of all shackles used.
49. List Spreader beam / other rigging used. State type, size, and capacity.
50. Self explanatory.
51. Self explanatory. **(On Lift Plan Worksheet)**
52. The total weight of all rigging that will be used.
53. - 63. Self explanatory.

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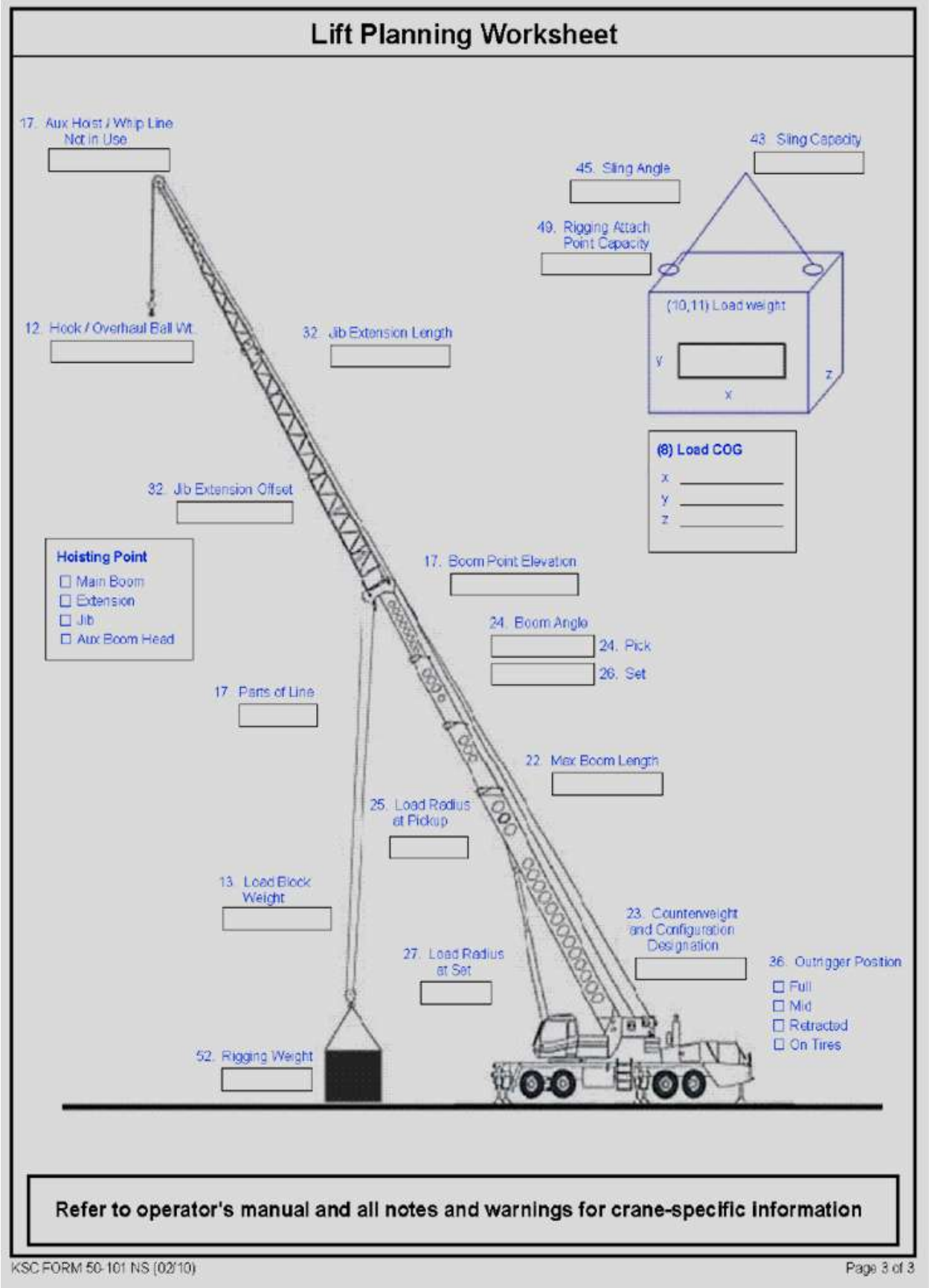

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14.0 EXCAVATION PERMITS

14.1 UTILITY LOCATE / EXCAVATION PERMIT REQUEST (KSC FORM 26-312V3)

In accordance with KNPR 8715.7, section 3.7, item b(1):

> (1) Anytime digging is performed, for any reason and to any depth, an approved Utility Locate/Excavation Permit Request, (KSC Form 28-312V3) is required.

A sample form, Kennedy Space Center Utility Locate/Excavation Permit Request, has been provided below as Figure 17.

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FIGURE 17: UTILITY LOCATE/EXCAVATION PERMIT REQUEST

UTILITY LOCATE/EXCAVATION PERMIT REQUEST

1. Date	2. Master Planning Site Plan No.	3. Project (PCN) No.	4. Work Order No.	5. Check One ☐ Permit to Dig ☐ Locate Only/ No Digging

6. Requester's Name **(REQUIRED)**	7. Email **(REQUIRED)**	8. Phone No. **(REQUIRED)**	9. Fax No. **(REQUIRED)**

10. Requester's Company **(REQUIRED)**	11. Mail Code/Address

12. Technical Contact **(REQUIRED)**	13. Email **(REQUIRED)**	14. Phone No. **(REQUIRED)**	15. Fax No. **(REQUIRED)**

16. KSC NASA Contact Name **(REQUIRED)**	17. Email **(REQUIRED)**	18. Phone No. **(REQUIRED)**

19. Building No. **(REQUIRED)**	20. Grid No. **(REQUIRED)**	21. Secondary Location (Bldg. No./Add. Info.) **(REQUIRED)**

22. Estimated Start Date **(REQUIRED)**	23. Estimated End Date **(REQUIRED)**

24. Emergency request justification ***(if required)***

25. Reason for permit/Statement of work **(REQUIRED)**

MAP/SKETCH, WITH AREA TO BE LOCATED/EXCAVATED CLEARLY MARKED, IS ATTACHED (REQUIRED)

See next page for completion and process instructions.

KSC FORM 26-312V3 NS (REV 08/09) PREVIOUS EDITIONS ARE OBSOLETE

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INSTRUCTIONS

Please complete as many fields as possible.

NOTE: ALL FIELDS INDICATING "(REQUIRED)" MUST PROVIDE INFORMATION.

Block 1	Date submitted.
Block 2-4	Provide related Site Plan, PCN or Work Order Numbers.
Block 5	Check one. If you are NOT going to dig, but need an underground utility locate, check "Locate Only".
Block 6-18	Enter the name, email address, phone, fax number, company name, and address of the person who will be receiving this permit including KSC NASA Contact for Project.
Block 19-20	Enter the building number where work will be performed (or closest building number).
Block 21	Enter additional information as necessary.
Block 22	Enter the date excavation is expected to begin.
Block 23	Enter the date excavation is expected to be complete. Permit will be closed on this date. End date may not be longer than one year from the start date.
Block 24	If excavation is of an emergency nature and requires priority, enter justification.
Block 25	Enter a description of why this permit is being requested, i.e., what work will be performed and why.

REQUIRED: ATTACH A MAP/SKETCH WITH AREA TO BE LOCATED/EXCAVATED CLEARLY MARKED.

1. Email, fax or hand-carry this request, along with a map, drawing or sketch to the Excavation Permit Request (EPR) Administrator using the contact information below.
2. You may contact the EPR Administrator using the contact information below if you have any questions on the dig permit process.
3. To schedule an appointment with the Excavation Permit Inspectors to locate underground utilities and/or obtain an approval signature on this permit to dig, Requester should phone the Excavation Permit Inspectors' Office (321-476-4494/3799) at least 72 hours prior to digging.
4. Requester should notify the EPR Administrator when excavation is complete.
5. Permits may be extended for up to one year by calling the EPR Administrator, but all permits will be closed upon expiration unless notified.

EPR Administrator

Location	**KSC Headquarters, M6-0399, Room 3145**
Mail Code	**ISC-4026**
Phone	**(321)867-2406**
Fax	**(321)867-1175**
Email	**KSC-ISC-DIGPERMIT@mail.nasa.gov**

Emergency requests will be processed on a real time basis
through the ISC Duty Office 861-5050, Fax (861-1627)
or Email - KSC-ISC-DutyOffice@mail.nasa.gov

KSC FORM 26-312V3 NS (REV 08/09) PREVIOUS EDITIONS ARE OBSOLETE

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14.2 EXCAVATION PERMIT RESTRICTIONS

Figure 18, below, identifies excavation restrictions for contractors with approved excavation permits.

UTILITY LOCATE/EXCAVATION PERMITS ENG-I-MP07

APPENDIX A: CATEGORY CODES

EXCAVATION PERMIT CATEGORY CODES:

For permits with more than one category code, the most restrictive category code applies. If you have questions about assigned category codes, contact the Excavation Permit Inspectors at 321-289-7829 or 321-749-4840. For the latest launch and landing schedule, contact the ISC Duty Office at 321-861-5050.

LAUNCH

Category Code I Seventy-two (72) hours prior to Launch and Return to Launch Site (RTLS), excavation will stop at, around or involving the following KSC facilities:

1. Launch Control Center - LCC (K6-0900)	5. Unified S-Band (MILA Area)	9. Tel IV & South Repeater Station (N6-1118)	13. VAB (K6-0848) and VAB Utility Annex (K6-0947)
2. LC 39 Active Pad Complex & all 8 Repeater Stations	6. Press Site (all buildings, roads, parking areas in and around the area)	10. Communication Distribution and Switching Center - CD&SC (M6-0138)	14. Operations & Checkout O&C (M6-0355)
3. VAB Repeater - VABR (K6-1193)	7. Obiter Processing Facility 3 - OPF3 (K6-0696)	11. Payload Facility Supporting Launch (M7-0777 & M7-0360)[1]	15. Central Instrumentation Facility (M6-0342)
4. C-5 Substation (K6-1141)	8. Banana River Repeater Station (M7-0531)	12. CCF - Converter Compressor Facility (K7-0468)	16. Shuttle Landing Facility - SLF (runway and all associated buildings and infrastructure)

1 - Mission Specific - including but not limited to these facilities. (M7-0777 - Transporter/Canister Facility, and M7-0360 - Space Station Processing Facility (SSPF)).

Excavation may resume at facilities 1-15 four hours after launch. Excavation will not occur at the SLF (16) until after landing.

Category Code II LC-39 Active Pad - All excavation (except emergencies) will stop when the Space Shuttle Vehicle (SSV) rolls out to Pad. Excavation may resume following Pad safing and washdown after launch.

Category Code III LC-39 Deactive Pad - Excavation will cease 2 hours before sunset on Launch -1 day, or 12 hours prior to Launch from the active Pad, whichever is earlier. Excavation may resume 4 hours after launch from the active pad.

Category Code IV No restrictions on excavation due to launch/landing at any time, unless directed otherwise by Procurement/Contracting Officer.

Category Code V *You must call the Air Force Duty Office at 853-5211 DAILY prior to digging.*

Air Force Launch Operations - Excavation and switching of critical power will cease on launch critical days (L-1, launch count to include launch day, and program specific test days) at the following KSC facilities and utilities:

1. Unified S-Band (MILA Area)	2. Press Site (all buildings, roads, parking areas in & around the area)	3. Banana River Repeater Station (M7-0531)	4. Utility corridors **east** of Orsino Substation Across NASA Parkway	5. KARS 1 park
6. Tel IV & South Repeater Station (N6-1118)	7. Area **south** from LC-39B along Phillips Parkway.	8. Pump Station 7 (K8-1740)	9. Utility corridors **east** from the Converter Compressor Facility -CCF (K7-0468) to Pad 39A	

These periods may be determined by contacting Cape Support, 853-5211, or the Automated Information System, 853-5511, 24 hours a day. When launches are scheduled for weekends or Mondays, the previous Friday will be considered L-1 and the weekends will be critical.

LANDING

Category Code VI Except for the SLF, excavation may proceed in all areas up to 2 hours prior to sunset on landing -1 day, or 12 hours prior to landing, whichever is earlier. Except for the SLF, excavation may proceed at all facilities 1 hour after a successful landing. Excavation will stop at, around and/or involving the SLF and involved facilities, at the start of Launch Countdown. Excavation may proceed in this area with approval from the SLF Operations at 867-2100.

FIGURE 18: EXCAVATION PERMIT RESTRICTIONS

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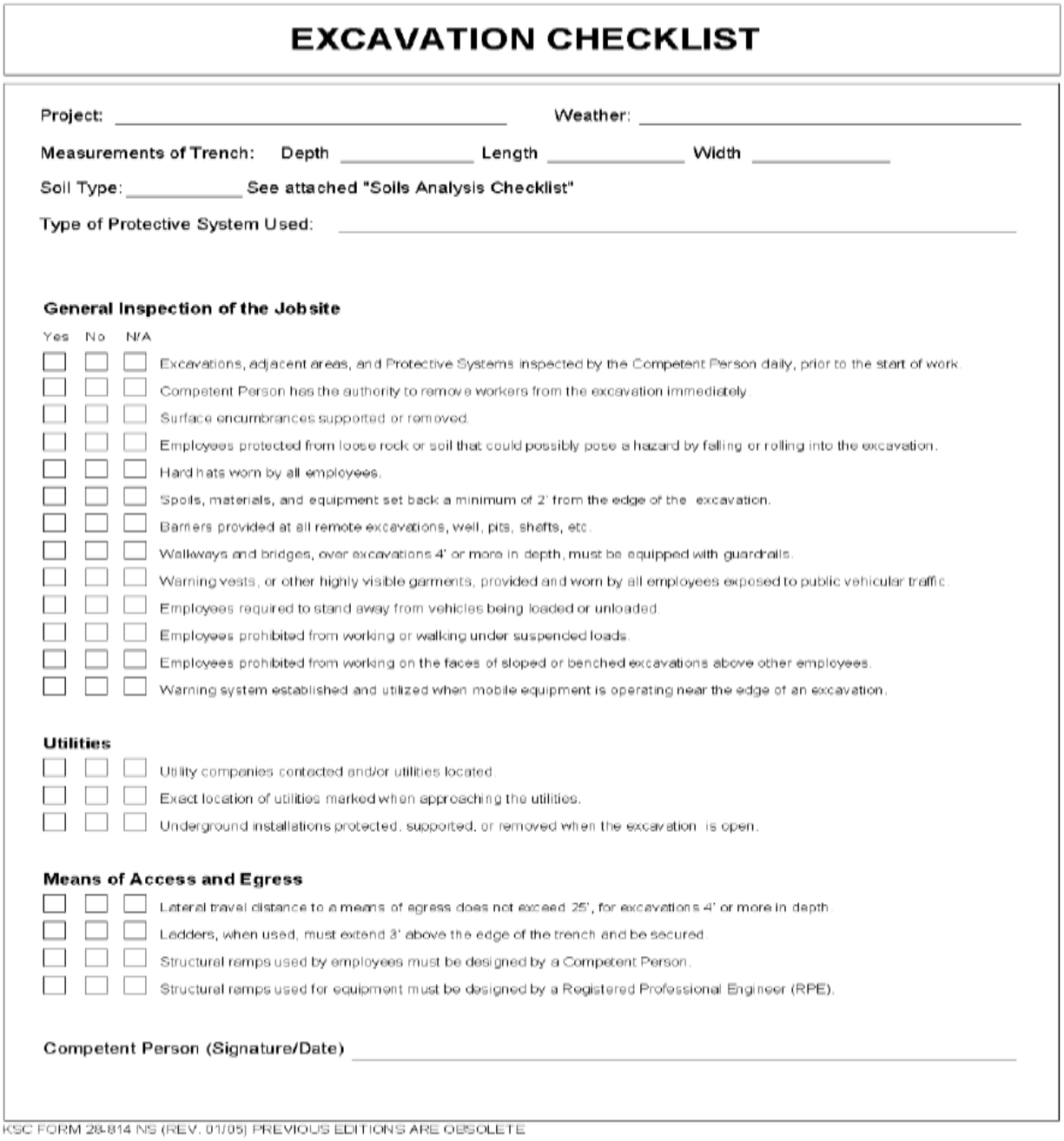
14.3 EXCAVATION CHECKLIST

As specified in KNPR 8715.7, the protection of personnel during excavations is a serious concern with any excavation activity. Daily inspections are required and good record keeping is mandatory. The Excavation Checklist (KSC Form 28-814) has been made available to assist in this effort.

An example of the Excavation Checklist has been provided below as Figure 19.



EXCAVATION CHECKLIST

Project: _____ Weather: _____

Measurements of Trench: Depth _____ Length _____ Width _____

Soil Type: _____ See attached "Soils Analysis Checklist"

Type of Protective System Used: _____

General Inspection of the Jobsite

Yes	No	N/A	
☐	☐	☐	Excavations, adjacent areas, and Protective Systems inspected by the Competent Person daily, prior to the start of work.
☐	☐	☐	Competent Person has the authority to remove workers from the excavation immediately.
☐	☐	☐	Surface encumbrances supported or removed.
☐	☐	☐	Employees protected from loose rock or soil that could possibly pose a hazard by falling or rolling into the excavation.
☐	☐	☐	Hard hats worn by all employees.
☐	☐	☐	Spoils, materials, and equipment set back a minimum of 2' from the edge of the excavation.
☐	☐	☐	Barriers provided at all remote excavations, well, pits, shafts, etc.
☐	☐	☐	Walkways and bridges, over excavations 4' or more in depth, must be equipped with guardrails.
☐	☐	☐	Warning vests, or other highly visible garments, provided and worn by all employees exposed to public vehicular traffic.
☐	☐	☐	Employees required to stand away from vehicles being loaded or unloaded.
☐	☐	☐	Employees prohibited from working or walking under suspended loads.
☐	☐	☐	Employees prohibited from working on the faces of sloped or benched excavations above other employees.
☐	☐	☐	Warning system established and utilized when mobile equipment is operating near the edge of an excavation.

Utilities

☐	☐	☐	Utility companies contacted and/or utilities located.
☐	☐	☐	Exact location of utilities marked when approaching the utilities.
☐	☐	☐	Underground installations protected, supported, or removed when the excavation is open.

Means of Access and Egress

☐	☐	☐	Lateral travel distance to a means of egress does not exceed 25', for excavations 4' or more in depth.
☐	☐	☐	Ladders, when used, must extend 3' above the edge of the trench and be secured.
☐	☐	☐	Structural ramps used by employees must be designed by a Competent Person.
☐	☐	☐	Structural ramps used for equipment must be designed by a Registered Professional Engineer (RPE).

Competent Person (Signature/Date) _____

KSC FORM 28-814 NS (REV. 01/05) PREVIOUS EDITIONS ARE OBSOLETE

FIGURE 19: EXCAVATION CHECKLIST

RELEASED - Printed documents may be obsolete; validate prior to use.

15.0 KSC/CCAFS CONFINED SPACE ENTRY PERMIT / AUTHORIZATION

In accordance with KNPR 8715.7, section 3.1, contractors requiring entry into and work in confined spaces are required to include a Confined Space Entry Program as part of the SSSP.

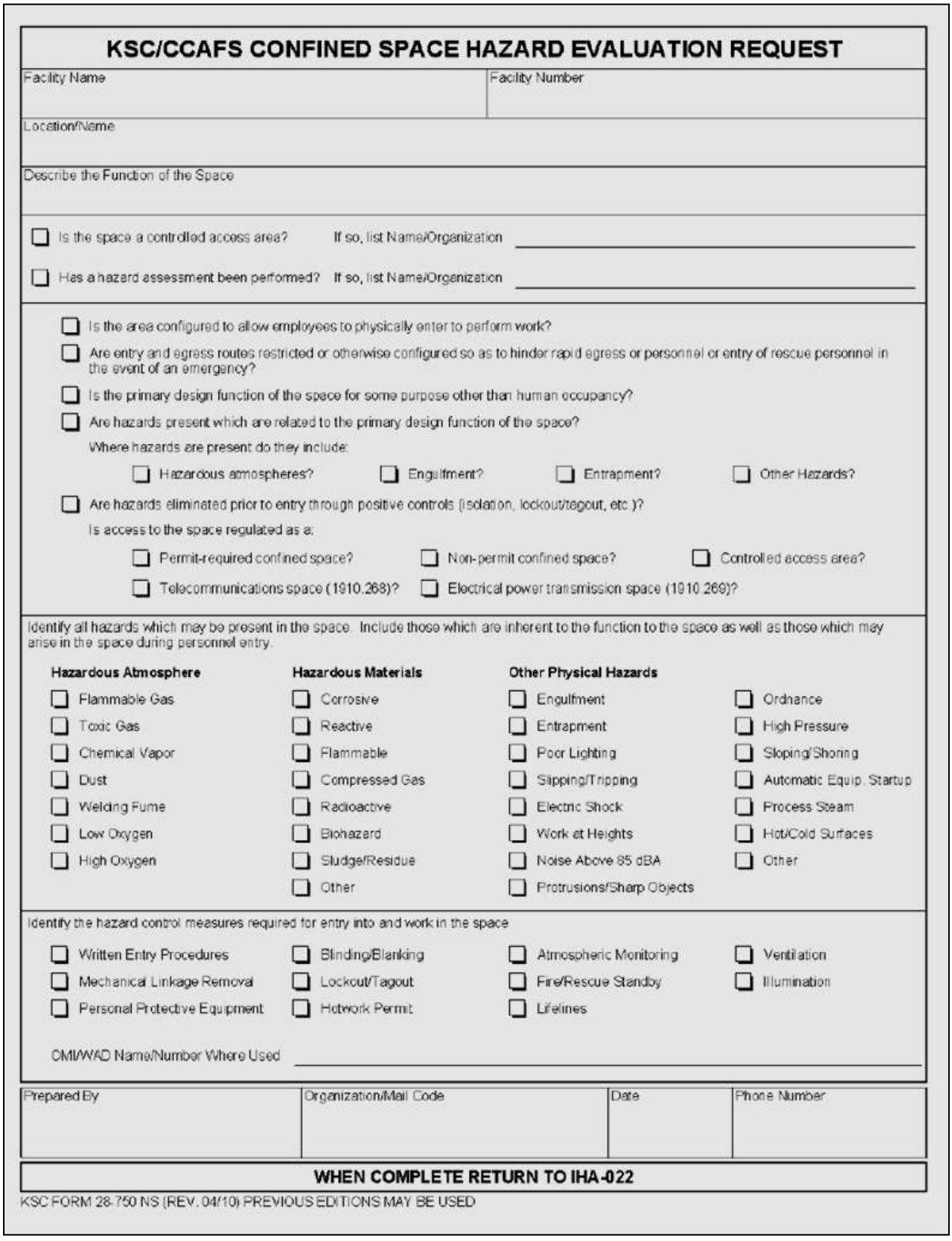
Working with the COTR, the Contractor is also required to complete a Confined Space Hazard Evaluation Request (KSC Form 28-750). This form will be used when requesting atmospheric testing support through NASA - Medical and Environmental Support Contractor (MESC) Industrial Hygiene (IH) Office. An example form is contained below as Figure 20.

The evaluation request form will also assist the Contractor in completing, a KSC/CCAFS Confined Space Entry Permit/Authorization (KSC Form 16-287). An example of this form is contained below as Figure 21.

Neither NASA nor MESC authorizes entry or issue the entry permit. This is the responsibility of the employer of the employees performing the confined space entry. The permit must be completed and signed by the confined space entry supervisor (organization performing the confined space operations).

Where NASA, through MESC IH, performs air monitoring as a part of a confined space entry operation, the MESC IH will fill out and sign the Atmospheric Conditions section of the permit.

RELEASED - Printed documents may be obsolete; validate prior to use.



KSC/CCAFS CONFINED SPACE HAZARD EVALUATION REQUEST

Facility Name	Facility Number

Location/Name

Describe the Function of the Space

☐ Is the space a controlled access area? If so, list Name/Organization _____

☐ Has a hazard assessment been performed? If so, list Name/Organization _____

☐ Is the area configured to allow employees to physically enter to perform work?

☐ Are entry and egress routes restricted or otherwise configured so as to hinder rapid egress or personnel or entry of rescue personnel in the event of an emergency?

☐ Is the primary design function of the space for some purpose other than human occupancy?

☐ Are hazards present which are related to the primary design function of the space?

Where hazards are present do they include:

☐ Hazardous atmospheres? ☐ Engulfment? ☐ Entrapment? ☐ Other Hazards?

☐ Are hazards eliminated prior to entry through positive controls (isolation, lockout/tagout, etc.)?

Is access to the space regulated as a:

☐ Permit-required confined space? ☐ Non-permit confined space? ☐ Controlled access area?

☐ Telecommunications space (1910.268)? ☐ Electrical power transmission space (1910.269)?

Identify all hazards which may be present in the space. Include those which are inherent to the function to the space as well as those which may arise in the space during personnel entry.

Hazardous Atmosphere	Hazardous Materials	Other Physical Hazards	
☐ Flammable Gas	☐ Corrosive	☐ Engulfment	☐ Ordnance
☐ Toxic Gas	☐ Reactive	☐ Entrapment	☐ High Pressure
☐ Chemical Vapor	☐ Flammable	☐ Poor Lighting	☐ Sloping/Shoring
☐ Dust	☐ Compressed Gas	☐ Slipping/Tripping	☐ Automatic Equip. Startup
☐ Welding Fume	☐ Radioactive	☐ Electric Shock	☐ Process Steam
☐ Low Oxygen	☐ Biohazard	☐ Work at Heights	☐ Hot/Cold Surfaces
☐ High Oxygen	☐ Sludge/Residue	☐ Noise Above 85 dBA	☐ Other
	☐ Other	☐ Protrusions/Sharp Objects	

Identify the hazard control measures required for entry into and work in the space

☐ Written Entry Procedures	☐ Blinding/Blanking	☐ Atmospheric Monitoring	☐ Ventilation
☐ Mechanical Linkage Removal	☐ Lockout/Tagout	☐ Fire/Rescue Standby	☐ Illumination
☐ Personal Protective Equipment	☐ Hotwork Permit	☐ Lifelines	

OMI/WAD Name/Number Where Used _____

Prepared By	Organization/Mail Code	Date	Phone Number

WHEN COMPLETE RETURN TO IHA-022

KSC FORM 28-750 NS (REV. 04/10) PREVIOUS EDITIONS MAY BE USED

FIGURE 20: KSC FORM 28-750, KSC/CCAFS CONFINED SPACE HAZARD EVALUATION REQUEST

RELEASED - Printed documents may be obsolete; validate prior to use.

KSC/CCAFS Confined Space Entry Permit/Authorization
Assessment form for all confined space entries

Entry Permit No.

Entry Permit action	Date / Times
Start	
Auto-Expiration	
Cancellation with Entry Supervisor initials ___	

√ *Follow company procedure for final disposition of this documentation*

Rescue and Emergencies
- ❑ Call 911 or (cellular) 867-7911 for emergencies
- ❑ Call 861-8718 or 853-9253 to advise FS of entry
- ❑ Required at confined space
- ❑ Other Rescue Service

911 or 867-7911(cellular)

Confined Space Information	Space Name:
Facility:	
CS POC Org:	Type Space:
Description:	

Entry Information	Entering Org.	Phone:
Purpose of entry:		
Attendant(s): Authorized Entrant(s):		

(use other format as needed)

Hazards of Space & Entry *(Check hazard & identify source/contributor)*
Previous Content:
❑ Hot work: Type ___ ❑ Inside space ❑ Outside space

Potential Hazards	Contributor / Source	Potential Hazards (Cont.)	Contributor / Source
❑ Engulfment		Physical / Configuration	
❑ Entrapment		❑ Poor lighting	
Atmospheric		❑ Poor communication	
❑ O_2 Deficiency / Enrichment		❑ Noise	
❑ Flammable		❑ Hot / Cold, Surf / Environment	
❑ Toxic		❑ Slip / Trip	
❑ Dust / Fibers		❑ Protrusions / Sharp objects	
Materials		❑ Working at heights	
❑ Flammable		❑ Falling objects	
❑ Corrosive / Reactive		❑ Electric shock	
❑ Radioactive		❑ Equip. start-up / Mechanical action	
❑ Biological		❑ High pressure gas	
❑ Sludge / Residue		❑ Restricted movement	
		❑ Weather	

Atmospheric Conditions	Time				Test By:
Parameter	Limits	Conc.	Conc.	Conc.	Equipment/Cal Due
Oxygen	19.5 - 23.5%				
LFL	10%				
CO	25 ppm				
H_2S	10 ppm				

Industrial Hygiene Signature (if applicable): Name / Phone:

Additional Atmospheric Monitoring Requirements | **Details**
- ❑ Continuous
- ❑ Periodic, ___
- ❑ If ventilation changes
- ❑ Re-entry, each
- ❑ If change suspected
  (All data to be attached)

Comments:

Hazard Controls / PPE *(Check entry requirements and methods to control/eliminate the identified hazard. Fill-in if applicable and as needed)*

Ventilation	Respiratory Protection	Lighting	Other PPE	Rescue Equipment
❑ Mechanical temporary	❑ Cartridge ___	❑ Portable light, area	❑ Garment, ___	❑ Verbal Comm, ___
❑ Electric	❑ Half-Face (NPR)	❑ Permanent light	❑ Boots, ___	❑ Signal Comm, ___
❑ Engine / Fuel	❑ Full-Face (NPR/PAPR)	❑ Natural light	❑ Welding hood	❑ Body harness
❑ Natural	❑ SCBA	❑ Flashlight	❑ Gloves, ___	❑ Anchor point
❑ Fixed ventilation	❑ Airline (SAR)	❑ Lightstick, corded	❑ Eye protection	❑ Tripod, available
❑ Flow ___	❑ Dust mask	❑ Exterior light	❑ Hearing protection	❑ Wristlet, ❑ Anklet
❑ ___	❑ ___		❑ ___	❑ ___

Entry / Exit	Isolation / LOTO *(hazard elimination) system / method*	Other Entry Requirements:
❑ Access ladder	❑ Electrical	
❑ Body harness / Entry tripod	❑ Pneumatic	
❑ Raised platform	❑ Piping	
❑ Pickboards	❑ Mechanical	
❑ Pre-task briefing	❑ Hydraulic	

CS Classification *(General / Initial)*	OSHA Standard	Entry Classification
❑ Permit Space	*1910.146*	❑ PRCS entry
❑ Non-Permit Space	*1910.146*	❑ APPS entry
❑ Telecom Manhole/Vault	*1910.268*	❑ Temp NP entry
❑ Electrical Manhole/Vault	*1910.269*	❑ NPS entry
❑ Construction Site Space	*1926*	❑ TCCS entry
❑ ___	___	❑ EPCS entry
Other CS Standards		❑ CSS entry
❑ KHB 1840.1 *Industrial Hygiene Handbook*		❑ ___
❑ AFOSH 91-25 *Confined Spaces*		

Note:
- All OSHA standards apply to organizations performing work at Spaceport. Omission of standards on this form does not imply inapplicability to workers and their work conditions.
- This permit is void / canceled if conditions change to an extent that the hazards are no longer adequately controlled, at the time of the stated expiration at the end of the permitted task, or otherwise canceled by the entry supervisor.
- Any problems encountered during an entry must be noted on, or attached to the permit, and reported to your safety and health office.
- All entrants, attendants and entry supervisors must follow the confined space entry procedures of their employer.

Other OSHA Standards Applied to Entry:
❑ 29 CFR 1910.147 Lock-out/Tag-out ❑ 29 CFR 1910.134 Respiratory Protection ❑ 29 CFR 1910.252 Welding ❑ ___

Safety Signature (if applicable):	Authorizing Entry Supervisor Signature:
Name / Phone:	Entry Supervisor Name(s) / Phone:

KSC FORM 16-287 (REV. 09/09) PREVIOUS EDITIONS ARE OBSOLETE Original - User/Organization Color Copy - Industrial Hygiene Support Office Hardcopy - Posted at space

FIGURE 21: KSC/CCAFS CONFINED SPACE ENTRY PERMIT/AUTHORIZATION

RELEASED - Printed documents may be obsolete; validate prior to use.

ATTACHMENT A: SSSP (TEMPLATE)

The following template will provide guidance during the development of the SSSP.

Note: Bold and *italicized* words found in this example document denote areas the contractor needs to replace with the specific requested information.

Site-Specific Safety and Health Plan (SSSP) for project:

Project Title

_____ - _____

PCN **Contract Number**

_____

Company Name

The following listed Official is <<*Company's Name*>> authority for approval of this SSSP for the above listed project.

Name of Company Official **Title** **Signature**

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Table of Contents

Safety and Health Sections

Project-Specific Safety and Health Sections

RELEASED - Printed documents may be obsolete; validate prior to use.

***NOTE:** The Contractor should list here any enclosures / appendices that the plan calls for (this may include training certifications, JHAs, fall protection plans, demolition plans, etc). These appendixes are contractor specific so no example formats are provided in the following example document.*

RELEASED - Printed documents may be obsolete; validate prior to use.

Safety and Health Sections

1. General Project / Safety and Health Information

<<Company Name>> SSSP is a detailed plan of safety and health information, requirements, and regulations that ***<<Company Name>>*** will follow while conducting all work under NASA/KSC Procurement Office contract ***<<Project Title>>*** located in ***<<building name and/or number>>***.

a. The work this SSSP covers includes ***<<describe here the general scope and statement of work to be performed on the project>>.***

b. This plan is written to address the safety and health aspects of this project's work requirements. Our Corporate Safety and Health plan and program, along with Federal, NASA/KSC, state, and local specific safety and health requirements were used in developing this plan.

c. This plan applies to all construction contractor personnel performing working on the site to include all subcontractor employees. ***<<Company Name's and their designated site supervisor employee name>>*** will be responsible for ensuring all employees follow all applicable safety and health regulatory requirements to include this SSSP.

d. All work under this contract will be performed safely so as not to create a hazard to personnel health or property (NASA and contractor). All work will be conducted in accordance with NASA and KSC provisions contained in the contract, all applicable sections of OSHA regulations, and other applicable local, state, and federal laws. ***<<Company Name>>*** will implement safe working practices and furnish equipment to assure a safe working environment.

e. ***<<Company Name>>*** will ensure employee compliance with this SSSP to include employees of any subcontractor that will perform work as part of this project.

f. ***<<Company Name>>*** intends to hire the following sub-contractors to perform the work identified on this project. This list includes additional sub-contractors hired by our project sub-contractors. This list will be updated when any new sub-contractor(s) are identified and hired.

Sub Tier Seller Name	Type Work Performed
1. ***<<Company A>>***	***Demolition of Existing Facility***
2. ***<<Company B>>***	***Concrete and Masonry***
3. ***<<Company C>>***	***Electrical***
4. ***<<Company D>>***	***Fire Systems***
5.	
6.	

Definitions:

<<The contractor may include a section here that defines key terms within the plan to clarify items for their employees and subcontractors>>

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2. Voluntary Protection Program

a. ***<<Company Name>>*** understands that Kennedy Space Center has implemented a comprehensive safety and health management system and is recognized by the Occupational Health and Safety Administration (OSHA) as a "Voluntary Protection Program (VPP) Star Worksite." Our company further understands that the VPP program promotes effective worksite-based safety and health by encouraging employers and employees to reduce the number of occupational safety and health hazards at their places of employment.

b. Though our company is not required by contract to be VPP certified we will:

(1) Follow the safety and health requirements of our host organization.

(2) Ensure employees are trained that they can report safety and health issues without fear of retaliation and that they can report anonymously.

(3) Support and comply with NASA/KSC contractor oversight program.

(4) Identify, correct, and track uncontrolled hazards on our jobsites in a timely manner.

(5) Comply with NASA/KSC in resolving any non-compliant work practices.

3. Contractor Employee Training

a. All ***<<Company Name>>*** and subcontractor employees engaged in jobsite activities will have received the required training that allows them to be safe during work activities. Personnel will not perform any work activity on the jobsite until they have received the training required for their job responsibilities and activities.

b. ***<<Company Name>>*** has enclosed a list of employees (including subcontractor employees) that will be performing work on the site (*see* ***<<appendix # >>***). The list certifies that the employees have received all required training, and a documented copy of the list will be updated before new employees or sub-contractors begin performing work on the jobsite.

c. Also listed in this document are the names and training certification of special role employees such as the site supervisor, competent persons, qualified persons, and heavy equipment operators, applicable to this contract.

d. ***<<Site Supervisor's Name>>*** will ensure that new site employees' training is verified prior to the employees being allowed to work on the site.

e. All of our safety and health training is performed by organization employees or outside companies qualified by training and/or experience in the area for which training is conducted.

f. The training records certified by ***<<name official of the company>>*** includes the employee name, date of training, type of training received, and expiration dates of training.

g. ***<<Company Name>>*** plans to use temporary employees on this project. The site supervisor will ensure these employees are trained or verify and certify (document) that they have been trained in basic OSHA and this SSSP requirements for the tasks that they will be performing at the jobsite. ***<<Include this paragraph as applicable>>***

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4. Accident / Incident (Mishap / Close Call) Reporting

a. In the event of a serious injury, employees will immediately notify the site supervisor and call 911 or (321) 867-7911 (cell phone on KSC) or (321) 853-0911 (cell phone on CCAFS). Ambulances are on call 24 hrs/day; 7 days/week on both KSC and Cape Canaveral Air Force Station (CCAFS).

b. The site supervisor will report severe mishap incidents (property damage greater than $250,000 or personnel injury/illness equivalent requiring inpatient hospital care or permanent or partial disability) within 1 hour to the Center Institutional Safety Office (321) 867-SAFE, the project CO, and COTR by telephone or in person.

c. Less severe mishap or close call incidents (potential for or actual property damage greater than $1,000 or personnel injury/illness equivalent to or exceeds a nonfatal OSHA-recordable occupational injury and does not meet the criteria of a more severe mishap identified above) will be reported to the Center Institutional Safety Office, CO, and COTR within 4 hours of the event (or by 7:30 AM the next workday for incidents occurring during shifts other than first shift) by telephone (321) 867-SAFE or in person.

d. Initial mishap or close call notification/report includes all available information such as:

(1) The time and location of the incident

(2) A detailed incident description

(3) The number of persons involved and associated organization(s)

(4) Preliminary worst case estimate of the injuries and direct cost estimate

(5) Causal factors, if known

(6) Corrective/hazard mitigation actions taken

e. In the event of an accident or mishap, the site supervisor will ensure immediate action is taken to secure potentially dangerous conditions (e.g., disconnect electrical power, secure machinery) in order to protect employees. The scene of an accident or mishap will be secured and remain intact until released by KSC Safety, KSC Security, and the Contracting Officer (CO) or a designated representative.

f. The site supervisor will ensure all potential incident witnesses and/or affected equipment remains until released by the appropriate NASA authority.

g. The site supervisor will submit to the CO and KSC Institutional Safety Office (SA-E2) a KSC Incident Report, KDP-F-3638, by hand, e-mail, or fax (321) 867-1120 within 4 hours of the mishap / close call. If the report is submitted by non-secure means all personal identification of the employee injured will be removed (name, social security number, etc.).

h. ***<<Company Name>>*** will notify their company president/top-level management or program manager of all incidents that are deemed immediately dangerous to the life and/or health of their employees.

i. ***<<Company Name>>*** will investigate less severe mishap or close call incidents (unless directed otherwise by the NASA Safety Office) in order to determine the root cause and furnish

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the CO with a written report within 30 days of the mishap or close call by completing page 2 of the KSC Incident Report, KDP-F-3638, which will include the investigation findings and proposed or completed corrective actions.

j. ***<<Company Name>>*** understands that NASA may appoint an observer or investigating authority for any incident.

k. ***<<Company Name>>*** will (in accordance with the requirements of our contract) cooperate with any Government incident investigation.

l. ***<<Company Name>>*** will perform trend analysis of their mishaps / close calls to identify potential reoccurring safety issues and share the analysis results with all worksite employees.

5. Weather Policy

a. ***<<Company Name>>*** will ensure employees on the jobsite are protected from adverse weather conditions. That includes winds in excess of 35 knots, heavy rain/hail, tornados, or the potential for lightning within 5 nautical miles that could affect the area within 30 minutes.

b. The site supervisor will have a means emergency communication and of receiving the KSC weather advisories and warning alerts at all times during work performance. ***<<Company Name>>*** will receive these alerts from a weather warning pager or text message received on a cell phone. These actions are coordinated through the project COTR.

c. The site supervisor will alert employees of adverse weather conditions and heat stress advisories in the area. The site supervisor will take appropriate action to protect employees when alerted.

d. ***<<Company Name>>*** will adhere to the work restrictions based upon the table below.

WIND LIMITATIONS TABLE

Steady State	**Gusts**	**Limitations**
18 knots (20.7 mph)	22 knots (25 mph)	No erection of, or work on floats, spiders, and /or scaffolding; nor lifting of personnel in buckets, crane baskets, etc.
20 knots (23 mph)	25 knots (28.7 mph)	No mobile/portal crane hoisting or crane operations. No high ranger or crane operations.
30 knots (34.5 mph)	35 knots (40.3 mph)	No work on facility roofs, structure tops, unprotected areas, or outside hand rails (materials on roofs are secured or removed).
35 knots (40.3 mph)	40 knots (46 mph)	Contractor Supervisors will immediately conduct a walk down of their area for unsecured items.
40 knots (46 mph) and above	45 knots (51.7 mph) and above	Immediate actions will be taken to secure at ground level all loose or unanchored items, equipment, supplies, and/or materials.

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<< The contractor will comply with wind advisories and warnings issued by the 45th Space Wing Weather Office unless an Alternate Wind Advisory Plan is approved as part of the contractor's SSSP. An approved alternate wind plan must contain the following elements >>

e. Upon notification of a KSC announced Adverse Wind Condition or if wind conditions on the jobsite appear to exceed safe working conditions, the project weather team will determine site specific weather/wind work restrictions.

f. The **<<Project Name>>** project weather team consists of the following personnel:

(1) <<Name of Contractor onsite Supervisor>>

(2) <<Name of project ISC Construction Inspector>>

(3) <<Project COTR or designated representative>>

g. The On-Site Weather Team will evaluate wind conditions by use of the following resources:

(1) The 45th Space Wing weather forecaster (321-853-8484)

(2) Utilize the NASA Dugong website using data from the towers in the vicinity of the worksite (http://dugong/met/current3/kscmap.html)

(3) Calibrated onsite anemometers. Anemometers will only be used by trained personnel.

(4) Visually check wind socks (if available)

h. Two of the first three methods identified above (minimum of two to corroborate wind readings) will be used to accurately determine wind speeds in the vicinity of the construction worksite

i. Winds will be monitored on a continuous bases and updates recorded in writing hourly at a minimum during a Center wide wind advisory / warning.

Lightning Restrictions

a. Phase One Lightning Advisory: Announced when conditions are present or within 5 nautical miles of the announced location which may produce cloud to ground lightning strikes within the next 30 minutes. Only operations that can be terminated immediately upon notification of Phase Two can be continued.

b. Phase Two Lightning Warning: Announced when lightning has been observed within 5 nautical miles or conditions exist which are predicted to produce lightning within 5 nautical miles. This advisory is a warning that employees outdoors will take immediate cover. Personnel access to roofs or top levels of structures is prohibited. Electrical systems maintenance and any other operation requiring personnel risk of lightning exposure are prohibited.

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Tornado Notification

a. Tornado Watch: Conditions exist for a tornado. Prepare for a tornado warning.

b. Tornado Warning: Tornado has been sighted. Personnel will take cover immediately in approved structures.

Hurricane Condition (HURCON) Policy

a. During the Atlantic Hurricane Season (June 1 through November 30) Florida is subject to extreme destruction associated with hurricanes. ***<<Company Name>>***, our employees, and subcontractors will comply with instructions from the CO and follow the NASA/KSC Hurricane Policy.

b. Hurricane Condition IV: Hurricane is forecasted to make landfall or impact the immediate area within 72 hours. Prepare site by securing structures and loose objects. Perform the necessary housekeeping. Prepare for evacuation.

c. Hurricane Condition III: Hurricane is forecasted to make landfall or impact the immediate area within 48 hrs. Evacuate site when directed by the CO and leave KSC.

d. ***<<Company Name>>*** will tie down trailers and equipment with anchorage that complies with KSC-PLN-1904, Trailer/Equipment Tiedown Plan for the Kennedy Space Center.

6. Clothing

a. All employees conducting work on this project will wear appropriate clothing. Appropriate clothing consists of at minimum long pants, short (at least four inches in length) or long-sleeved shirt (no tank tops), and a style of shoe determined by the type of work being performed. Overly loose fitting, torn, or ragged clothing will not be acceptable.

b. The site supervisor will check daily that workers have the proper clothing suitable for tasks and hazard level of work being performed.

c. Fire retardant clothing will be worn for designated tasks that present a potential for arc flash, flash fire, or explosion to minimize the effects of arc flash, flash fires, and burns from contacting hot equipment and material. This is also addressed in the sections for electrical and welding work.

7. Construction Site Safety

a. The site supervisor will ensure the safety of all personnel from all organizations while within the boundaries of the worksite. This is to include control of who is on site, what PPE, special conditions, and restrictions will be observed while on site.

b. The designated site supervisor(s) for the jobsite is (are) ***<<List name(s) of employee(s)>>***. A site supervisor will be on site at all times during construction. If the site supervisor cannot remain at the site, a designated authorized representative with the responsibilities, accountability, and authority of the absent supervisor will be identified. If such an individual is not designated, all construction work will be halted until the site supervisor returns.

c. The site supervisor or authorized representative while performing supervisory tasks will not perform other labor type duties (i.e., laborer or equipment operator).

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d. ***<<Company Name>>*** will permit only those employees designated qualified to operate equipment and machinery. A qualified operator is one being knowledgeable of the equipment's/machine's operations, operations manual, limitations, restrictions, and safety requirements.

e. Personnel will not use cell phones/texting devices while operating equipment (to include hand tools, machinery and heavy equipment) or driving vehicles (hands free only in vehicles). Necessary business calls or replying to pages or telephone calls may be accomplished only from a safe location (designated break area or area free from hazards) while at the jobsite.

f. All employees are encouraged to submit suggestions or report issues regarding site and facility safety and health to the project site supervisor, the NASA/KSC assigned Safety Specialist, or by calling the KSC Institutional Safety Office (SA-E2) at (321) 867-SAFE (7233) without fear of retribution.

g. Employees that are performing work in or transitioning through a construction site controlled by another contractor will comply with the safety and health requirements of that worksite and apply common sense to avoid injuries. In addition when working in the vicinity of or transitioning through an area where KSC operations are in progress, employees will comply with the safety and health requirements and direction of the NASA controlling authority of the area.

h. The site supervisor will maintain at all times a means of communication to contact emergency services and emergency numbers will be posted at the worksite in a location where all employees have access. The site supervisor will develop a means of communication to disseminate information throughout the worksite (handheld radios, bulletin boards, etc.).

8. Controlled Areas

Employees will not enter posted controlled areas, nor will the integrity of any installed protective system (e.g., guardrails, safety signs, warning lights) be rendered inoperable, without proper written approval from the CO in consultation with the appropriate facility management and the KSC Institutional Safety Office (SA-E2).

9. Drinking Water

a. ***<<Company Name>>*** will ensure employees have access to potable drinking water when in the performance of the job sufficient for the number of employees at the jobsite.

b. Drinking water will be dispensed from a fully enclosed sanitary water container in the vicinity where the work is being performed into individual paper or plastic cups, individual use water bottles, or bottles of waters. Common drinking cups or dipping water by individual drinking cups, dippers, canteens, etc., is prohibited. Where single service cups (disposable/to be used only once) are supplied, a sanitary container for the unused cups and a bag or container for disposing of the used cups will be provided.

c. Hydration is critical in the prevention of heat related illness, and employees will be encouraged to properly hydrate before they begin work efforts and to maintain adequate hydration throughout the workday.

RELEASED - Printed documents may be obsolete; validate prior to use.

10. Evacuation (Facility or Area)

a. For all work conducted inside a facility, ***<<Company Name>>*** will assign a point of contact (POC) prior to the beginning of work. Should evacuation of any area be necessary for reasons other than tornadoes, employees will follow the facility evacuation procedures and meet the POC at the marshalling area or at least 200 feet from the hazard. The site supervisor or designated POC will ensure accountability of employees. The POC will brief employees (including subcontractors) on evacuation and marshalling areas on the first day work begins.

b. The project supervisor or designated POC will notify the KSC on scene Commander if all employees are not accounted for. Employees will not return to work inside or within 200 feet of the facility until the on-scene commander gives the "ALL CLEAR".

11. First Aid and Medical

a. Prior to starting work, ***<<Company Name>>*** will make provisions for prompt medical attention in case of employee injury. Emergencies will be reported by dialing 911, (321) 867-7911 (cell phone on KSC) or (321) 853-0911 (cell phone on CCAFS).

b. All emergency contact telephone numbers will be posted at the jobsite in an area accessible and conspicuous to all personnel.

c. For non-emergency, walk-in medical care, personnel may report to the KSC Occupational Health Facility (OHF) located at the corner of 2nd St. SE and C Ave. SE during normal office hours (0700 – 1600 hrs). After hours or on weekends, call the numbers listed in "11a" above. Emergency Medical Services (EMS) personnel evaluate for first aid or transport to nearest medical facility.

d. The site supervisor(s) will:

(1) Ensure employees know to report any injury to their supervisor immediately.

(2) Ensure employees report to the nearest Occupational Health Facility (OHF) facility immediately during clinic hours and after hours or on weekends call the numbers listed in "11a" above and EMS will evaluate for first aid or transport to nearest medical facility if necessary.

(3) Follow the requirements for KSC Accident/Incident (Mishap / Close Call) Reporting.

(4) Ensure any employee that is transported off base after hours report to the OHF the next duty day the OHF is open and comply with all follow-up visits.

(5) Ensure the employee is compliant with restrictions as ordered by the physician.

e. ***<<Company Name>>*** has developed a first aid program for the worksite. The first aid program is designed to reflect the known and anticipated risks of the specific work environment. Adequately trained person(s) are available to render first aid. First aid training includes instruction in general and workplace hazard specific knowledge and skills. First aid supplies are available in adequate quantities and are readily accessible.

RELEASED - Printed documents may be obsolete; validate prior to use.

12. Hazard Communications

<<The contractor describes in this section their approach to implementing the requirements of the OSHA Hazard Communication standard (29 CFR 1910.1200) for the work to be performed at the KSC worksite. The description needs to include:

a. Employee Training

b. List of Hazardous Materials to be used on the KSC worksite

c. Submittal of Material Safety Data Sheets>>

13. Heat Stress

<<The contractor describes here their heat stress prevention policy. The description needs to include:

a. Use of KSC-issued weather warning pagers.

b. Training and education in the hazard, risk factors, effects of heat stress including signs and symptoms and the actions that should be taken, and prevention methods.

c. Approach to providing potable water, work breaks and other accommodations for preventing heat related illness.>>

14. Housekeeping

a. Good housekeeping practices will be observed by all employees at all times. Employees will use only approved marked containers for disposal of wastes in accordance with appropriate regulations.

b. The work area will be maintained in a manner that minimizes hazards and allows employees to safely work. Routine clean up of the jobsite will be done daily at the end of each shift.

c. During the course of construction, form and scrap lumber with protruding nails and all other debris will be kept cleared from work areas, passageways, and stairs in and around buildings or other structures.

d. During the course of construction, all protruding reinforcing steel (rebar) that creates an impalement hazard for employees will be guarded to eliminate that hazard.

e. Combustible scrap and debris will be removed at regular intervals during the course of construction.

f. At the completion of construction, the contractor will clean up the construction area of all excess construction debris and return to grade level all above surface protrusions which are not permanent fixtures.

15. Inspections (Worksite)

a. The site supervisor will conduct or ensure a daily inspection of the jobsite, materials, and equipment is conducted to identify existing or potential hazards.

RELEASED - Printed documents may be obsolete; validate prior to use.

b. The inspection will be accomplished by the designated competent person (general). At least weekly, the site supervisor will document the completion of this inspection.

c. A competent person (general) is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees and who has authorization to take prompt corrective measures to eliminate them.

16. Inspections (NASA Safety Representatives)

a. ***<<Company Name>>*** understands the jobsite is subject to inspection by KSC Safety and Health personnel at any time.

b. ***<<Company Name>>*** also understands that safety violations will be documented. The site supervisor will work with KSC Construction Safety Specialists, the COTR, and/or CO (depending on severity) to implement corrective action(s).

17. Job Hazard Analysis (JHA)

a. Prior to the start of work, the ***<<Company Name>>*** will perform a job hazard analysis of the work to be performed. The completed JHA will be provided to KSC Institutional Safety Office (SA-E2) through the CO as an appendix to this SSSP prior to the work occurring.

b. A JHA is a technique that focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationship between the worker, the task, the tools, and the work environment. ***<<Company Name>>*** goal is to identify all uncontrolled hazards, then take the steps/actions to eliminate or reduce the hazards to an acceptable risk level.

c. ***<<Company Name>>*** JHA(s) contains each of the sections identified below:

(1) Task (Activity) Description: Specify the work to be performed such as operating machinery, equipment, and powered hand tools.

(2) Hazard Description: Using the tasks listed, identify the hazards related to the work being performed such as flying debris, dust, wood chips, metal shavings getting into the eyes).

(3) Hazard Controls: The preventive measures taken to eliminate or mitigate the hazard to an acceptable operational level for example know and utilize the manufacturer's operating, maintenance, and safety procedures and use personal protective equipment (PPE) as required, such as ear protection, goggles, face shield, safety shoes, and work gloves.

d. JHAs are living documents and will be reviewed, updated, and discussed with employees when changes occur in work tasks, alternate equipment is being used, or when alternate methods of performing the task are being considered such as using aerial lifts in place of scaffolding.

RELEASED - Printed documents may be obsolete; validate prior to use.

18. Maximum Work Hour Policy

<<Company Name>> will comply with NASA/KSC employee work hour limits.

a. No employee will work in excess of 12 consecutive hours in any one day. A minimum of 8 hours off time will be allotted between work shifts.

b. No employee will work in excess of 60 hours in any one work week.

c. No employee will work more than 7 consecutive days without one full day off.

d. No employee will work in excess of 240 hours during any 4 consecutive work weeks or 2500 hours in any rolling 12 month period.

e. A written request for exceptions to the above policy will be submitted for approval to the CO in consultation with KSC Institutional Safety Office (SA-E2).

19. Pre-task Meetings

Prior to the start of each work day, when a task changes during operations, prior to any hazardous task, or prior to any confined space entry, ***<<Company Name>>*** will conduct a pre-task (toolbox) meeting and communicate all job related safety issues with all employees involved. Where a task involves a confined space entry, completion of this meeting will be noted on the confined space entry permit. This meeting at a minimum will cover:

a. Work tasks planned for the day to include sequence and hazard management.

b. Weather issues that could affect that day's work.

c. PPE required for that day's work task(s).

d. Safety hazard awareness (from JHA).

20. Safety Meetings

a. The site supervisor will conduct and document weekly safety meetings for all employees at the jobsite, to include employees of subcontractors. The meeting will discuss safety and health related issues as well as any incidents (and subsequent corrective actions taken) that have occurred at the site.

b. The first meeting will occur prior to beginning work on the first day on the job. Also, if during performance of the contract, a break of more than five working days occurs, the site supervisor will conduct a safety meeting on the first day back on the job.

c. The documentation of safety meetings will include a short summary of the items covered, the date and location of the meeting, the name and signature of the person conducting the meeting, and a roster of attendees. Documentation of these safety meetings will be kept at the construction site for review.

RELEASED - Printed documents may be obsolete; validate prior to use.

21. Safety Systems – (Permanently Installed)

a. ***<<Company Name>>*** will protect and in no way invalidate the integrity of any installed safety systems or personnel safety devices such as firefighting equipment and sensing devices, fire alarm centers, fire water supply, guard rails, safety chains, warning lights, and safety signs. Prior CO approval will be obtained when access to device-guarded systems is required.

b. In the event ***<<Company Name>>*** or NASA/KSC makes a determine (with CO approval) that it is necessary to temporarily remove or invalidate any personnel safety devices in order to accomplish a task, alternate means of protection prior to removing or invalidating any permanently installed safety devices or equipment will be developed, in place, and approved prior to any work occurs.

22. Sanitary Conditions and Facilities

a. ***<<Company Name>>*** will ensure our employees have access to sanitary facilities in the performance of the job. In the absence of accessible facilities, ***<<Company Name>>*** will provide temporary restroom facilities at the jobsite.

b. One chemical toilet, adequately serviced, for every 20 employees or less is required with a hand washing facility located adjacent to chemical toilet. If showers are needed, a shower facility will be provided for each 10 employees of each sex.

c. Whenever employees are required to wear protective clothing because of the possibility of contamination with toxic materials, ***<<Company Name>>*** will provide change rooms equipped with storage facilities for street clothes and separate storage facilities and or disposal containers for the protective clothing.

23. Temporary Structures, Trailers, and Work Areas

a. All temporary structures and trailers will be clearly marked with our company's name and an emergency contact phone number. Trailers will be pre-approved by the KSC COTR and the Facility Manager for parking locations and tied down if stationary for a period in excess of two weeks. A dig permit will be requested and approved prior to tying down any trailer or temporary structure.

b. ***<<Company Name>>*** worksite for this project will be clearly marked by a posted sign(s) with the following information. This information will be posted in an area visible to both contractor and NASA/KSC employees.

(1) ***<<Company Name>>***

(2) ***<<Prime Contractor Site Supervisor's name and contact phone number>>***

(3) ***<<Prime Contractor Safety Supervisor's name and contact phone number (if applicable)>>***

(4) ***<<NASA/KSC Project Contracting Officer's (CO) name and contact phone number>>***

(5) ***<<NASA/KSC Contract Officer Technical Representative's (COTR) name and phone number>>***

(6) ***<<NASA/KSC Safety phone number (321-867-SAFE)>>***

RELEASED - Printed documents may be obsolete; validate prior to use.

24. Vehicle Operations

a. ***<<Company Name>>*** will adhere to permit requirements, restrictions, and conditions for overweight, oversized, or slow moving vehicles as identified in contract clause JC-6, Traffic Restrictions, and in KNPR 1600.1, KSC Security Procedural Requirements.

b. ***<<Company Name>>*** will adhere to the prohibition of movement of oversized or slow moving vehicles on KSC roadways between the hours of 0600-0900 and 1500-1800, Monday through Friday.

c. ***<<The remainder of the SSSP should only contain the following areas applicable to the work performed on this project>>***

RELEASED - Printed documents may be obsolete; validate prior to use.

Project-Specific Safety and Health Sections

25. Confined Space Entry

a. ***<<Company Name>>*** work on this project requires entry into and work in confined spaces. ***<<Company Name>>*** has enclosed an OSHA Compliant Confined Space Entry Program (Plan) that implements the applicable requirements of (29 CFR 1910.146, 1910.268, and 1910.269), KNPR 1840.19, KSC Industrial Hygiene Program, KNPR 1820.4, KSC Respiratory Protection Program and KNPR 8715.3, KSC Safety Practices Procedural Requirements as ***<<appendix # >>*** to the project SSSP.

b. <<If the contract requires work in telecommunications manholes, identify here how your company will comply with the provisions of 29 CFR 1910.268(o) and 1910.269(e) >>

c. <<If the contract requires work in electrical and/or communications manholes, the following statement will be included in the plan>>

<<Company Name>> will notify and obtain approval from the Power Coordinator (321-867-7300) and from Communications Control (321-867-4141) respectively prior to performing any work.

d. <<As a part of its Confined Space Entry Plan, the contractor will describe its approach to implementing the requirements of the OSHA Permit-Entry Confined Space regulation. The plan will address:

(1) Employee training

(2) Site plan showing locations of confined spaces under scope of contracted work

(3) Pre-entry hazard assessment and entry requirements

(4) Approach to use of Government-provided services for atmospheric testing, or alternatively, the contractor's approach to performing atmospheric testing for confined space entry.

(5) Approach to coordinating confined space entry work with KSC Environmental Health, Fire Services, Power Coordinator, and Communications Control.

(6) Where the contractor will act as a controlling employer with operational control over the permit space during multiple employer entry, describe your approach to coordinate entry operations (for example, hazardous operations, required PPE, employee training, rescue, emergency services, and all other aspects of the entry) with each entrant's employer.>>

e. ***<<Company Name>>*** will perform their ***<<own atmospheric testing>> OR <<use the Government provided services including environmental health monitoring and consultation>> (identify which will be used)*** support for testing of atmospheres in confined spaces.

f. ***<<Company Name>>*** will ensure all water is pumped out of the confined space prior to entry checks.

RELEASED - Printed documents may be obsolete; validate prior to use.

26. Cranes and Lifting Operations

a. ***<<Company Name>>*** will conduct all crane and lifting equipment operations and maintenance in compliance with manufacturer's recommendations, Subpart N of 29 CFR 1926, applicable ASME standards, and NASA-STD-8719.9, NASA Standard for Lifting Devices and Equipment.

b. ***<<Company Name>>*** will use only certified (licensed) and trained personnel to operate mobile cranes and other lifting equipment. Operator will be trained and certified by a recognized certification organization that normally performs this function. Our list of certified personnel and equipment they will be utilizing is as follows:

<<Employee>>	***<<Equipment Employee is Certified to Operate>>***
<<Employee>>	***<<Equipment Employee is Certified to Operate>>***
<<Employee>>	***<<Equipment Employee is Certified to Operate>>***
<<Employee>>	***<<Equipment Employee is Certified to Operate>>***

c. ***<<Company Name>>*** riggers are trained and certified in their discipline, and flagmen are trained in applicable crane or lifting equipment operation procedures.

d. All cranes and lifting equipment are certified for operational use by ***<<list appropriate authorizing agency>>.***

e. An operator will man the controls of any lifting device while a load is suspended and/or when the equipment is operational.

f. No personnel will perform work or be located under a suspended load at any time.

g. A daily, monthly, and annual equipment inspection is conducted and results documented and available at the jobsite. Cranes will be inspected by a competent person (cranes). These inspections will follow manufacturer's suggestions and include at a minimum the areas listed in chapter 5.4 of NASA-STD-8719.9.

h. ***<<Company Name>>*** maintains a documented system to track crane problems or discrepancies. Prior to an operation, the crane operator will review any previously noted problems or discrepancies to determine possible impact on the planned activity.

i. ***<<Company Name>>*** maintains the following documentation on the jobsite anytime a piece of lifting equipment is operational: Operator certification, equipment certification, inspection, and load test documentation.

j. Load charts for all cranes will be located in the crane cab whenever a crane is to be operated.

k. Hand signals to crane operators will be those prescribed by the applicable ANSI standard for the type of crane in use.

l. A pre-task briefing will be performed and documented prior to commencing crane operations. The briefing will include at a minimum:

(1) An overview of the task to be performed.

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(2) The methods used to accomplish the task.

(3) Who each member of the crew is and where they will be positioned.

(4) What task each member of the crew will perform.

(5) Who is in charge of the operation.

m. The working area around any lifting operation will be controlled by ***<<list means of control>>***. Only personnel essential to the lifting operation will be inside the controlled area. If the controlled area cannot be maintained, the lifting operation will be discontinued.

n. The site supervisor will be in overall charge of lifting operation on the jobsite and will ensure all personnel involved are instructed in the proper positioning, rigging, and moving to be done.

o. This person will ensure:

(1) The crane has met all its maintenance, test, and inspection requirements and is to be operated within its rated capacity and the operator is properly certified.

(2) The vicinity of the lift is controlled and the operator remains at the controls the entire time the load is suspended.

(3) The crane operator and signalmen have communications with each other. If communications are lost, the lifting operation will be immediately stopped.

(4) All personnel within the controlled lifting area are wearing the appropriate personal protective equipment (e.g., hardhat, safety shoes, and gloves).

(5) A pre-task briefing was performed and all personnel are knowledgeable of the operation to be performed, tasks to be done, route to be traveled, and safety considerations.

(6) At no time will any part of the crane or load pass within the designated minimum safe approach distance of an electrical power line unless the line is de-energized and visibly grounded on both sides of the area of possible contact.

p. All crane operations will comply with the NASA/KSC Adverse Weather requirements and this plan. When moving cranes, adhere to the crane manufacturers wind limits for both operations and positioning.

q. A written lift plan will be submitted and approved by the CO in consultation with the KSC Lifting Devices and Equipment Manager (LDEM) and KSC Institutional Safety Office (SA-E2) for all crane operations involving critical lifts, as defined in Appendix A of KNPR 8715.7.

r. Cranes will not be used to hoist employees on a personnel platform unless approved in advance by the CO in consultation with the KSC LDEM and Center Safety Office. The requirements of 29 CFR 1926.550(g) will be fully addressed on all plans submitted for NASA approval.

s. Cranes left outdoors will be secured by the operator when operations are complete. Cranes of any height will be lowered during the hours of darkness. If this is not feasible, the crane will be lit in accordance with Federal Aviation Administration (FAA) regulations.

RELEASED - Printed documents may be obsolete; validate prior to use.

27. Demolition

a. ***<<Company Name>>*** will conduct all demolition operations in compliance with Subpart T to 29 CFR 1926.

b. Prior to permitting employees to start demolition operations, ***<<Company Name>>*** will have an engineering survey completed by a competent person (general) of the structure to determine the condition of the framing, floors, and walls, and possibility of unplanned collapse of any portion of the structure. Any adjacent structure where employees may be exposed will also be similarly checked. ***<<Company Name>>*** will submit this survey to the CO for review.

c. The demolition activities involve hazardous materials, such as silica, mold, or toxic substances regulated under 29 CFR 1926.1101 through 1152 ***<<list specific materials involved and remove the rest>>***. A plan for safe handling and containment of those hazardous materials will be approved and in place prior to beginning of the demolition ***(see also section 3.11, Hazardous Substances of this example document for specific additional plan requirements).*** The plan for handling/containment of all hazardous materials will be in full compliance with applicable Federal, State of Florida, NASA, and/or other authorized regulatory agencies current standards.

d. During demolition, continuing inspections by a competent person (general) will be made as the work progresses to detect hazards resulting from weakened or deteriorated floors, or walls, or loosened material. No employee will be permitted to work where such hazards exist until they are corrected by shoring, bracing, or other effective means.

e. If materials are to be dropped more than 20 feet to any point lying outside the exterior walls of the building, an enclosed chute of wood, or equivalent material, will be used. Chutes will be constructed and used in accordance with 29 CFR 1926.852.

f. When operations are not in progress, the area surrounding the discharge end of a chute will be securely closed off.

g. When debris is dropped through holes in the floor without the use of chutes, the area onto which the material is dropped will be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above. Signs warning of the hazard of falling materials will be posted at each level. Removal will not be permitted in this lower area until debris handling ceases above.

h. Where wall openings present a hazard of employees falling through, the opening will be protected to a height of approximately 42 inches.

i. All floor openings not used as material drops will be covered over with material substantial enough to support the weight of any load which may be imposed. The material will be properly secured to prevent its movement.

j. Employee entrances to multistory structures being demolished will be completely protected by sidewalk sheds or canopies, or both, providing protection from the face of the building for a minimum of 8 feet. All such canopies will be at least 2 feet wider than the building entrances or openings (1 foot wider on each side thereof) and will be capable of sustaining a load of 150 pounds per square foot.

RELEASED - Printed documents may be obsolete; validate prior to use.

k. ***<<Company Name>>*** employees will only use stairways, passageways, and ladders, designated as means of access to the structure. All other access ways will be entirely closed at all times.

l. Walkways or ladders will be provided for employees to safely reach or leave any scaffold or wall.

m. Any structural member being dismembered will not be overstressed.

n. No workers will be permitted in any area which can be adversely affected by demolition operations when balling or clamming is being performed. Only those workers necessary for the performance of the operations will be permitted in this area at any other time.

o. A Florida Department of Environmental Protection (FDEP) "Notice of Asbestos Renovation and Demolition Form" [DEP Form 62-257.900(1)] will be completed and submitted to the CO prior to demolition of any load-bearing structure regardless of whether or not asbestos is present.

28. Dive Operations (Commercial)

a. This section applies to diving and related support operations conducted in connection with this project. ***<<Company Name>>*** will conduct dive operations in accordance with 29 CFR 1910.401 through 440.

b. ***<<Company Name>>*** has developed a safe practices manual ***(see Appendix #)*** that will be maintained at the dive location for each dive team member. The safe practices manual contains a copy of CFR 1910.420 through 440, Commercial Dive Operations, the (OSHA) standard ***<<Company Name>>*** policies for implementing the requirements of the OSHA standard.

c. Each dive team member has the experience and training necessary to perform assigned tasks in a safe and healthful manner, the use of tools, equipment, and systems relevant to assigned tasks, techniques of the assigned diving mode, diving operations and emergency procedures.

d. All dive team members are trained in cardiopulmonary resuscitation and first aid (American Red Cross standard course or equivalent). Dive team members who are exposed to or control the exposure of others to hyperbaric conditions are trained in diving-related physics and physiology.

e. ***<<Site superintendent>>*** OR ***<<Designated person in charge>>*** **(list name of appropriate person)** will be at the dive location in charge of all aspects of the diving operation affecting the safety and health of dive team members. The designated person-in-charge has experience and training in the conduct of the assigned diving operation.

Requirements to complete Prior to Diving

<<Company Name>> will comply with the following requirements prior to each diving operation:

a. A list will be kept at the dive location of the telephone or call numbers of the following: An operational decompression chamber (if not at the dive location); accessible hospitals; available physicians; available means of transportation; the nearest U.S. Coast Guard Rescue Coordination Center.

RELEASED - Printed documents may be obsolete; validate prior to use.

b. First aid supplies, first aid kit appropriate for the diving operation and approved by a physician will be available at the dive location. An American Red Cross standard first aid handbook or equivalent, and a bag-type manual resuscitator with transparent mask and tubing will be available at the dive location.

c. ***The planning of dive operations will include an operations hazard analysis that takes into account:***

(1) ***Surface and underwater conditions and hazards, Breathing gas supply (including reserves), thermal protection, diving equipment and systems, dive team assignments and physical fitness of dive team members (including any impairment known to the employer), repetitive dive designation or residual inert gas status of dive team members, decompression and treatment procedures (including altitude corrections), emergency procedures, hazardous activities.***

(2) ***Other activities in the vicinity which are likely to interfere with the diving operation.***

d. Prior to commencing dive operations, team members will be briefed on:

(1) The tasks to be undertaken.

(2) Safety procedures for the diving mode.

(3) Any unusual hazards or environmental conditions likely to affect the safety of the diving operation.

(4) Any modifications to operating procedures necessitated by the specific diving operation.

(5) Prior to making individual dive team member assignments, ***<<Company Name>>*** will:

(a) Inquire into the dive team member's current state of physical fitness

(b) Indicate to the dive team member the procedure for reporting physical problems or adverse physiological effects during and after the dive.

e. A standby diver will be available whenever a diver is in the water.

f. The breathing gas supply system including reserve breathing gas supplies, masks, helmets, thermal protection, and bell handling mechanism will be inspected prior to each dive ***(remove if non-applicable).***

g. When diving from surfaces other than vessels in areas capable of supporting marine traffic, a rigid replica of the international code flag "A" at least one meter in height will be displayed at the dive location in a manner which allows all-round visibility, and will be illuminated during night diving operations.

Procedures to be followed during Dive Operations

a. The diver will be provided support for entering and exiting the water. The means for exiting the water will extend below the water surface. A means will be provided to assist injured divers from the water or into a bell.

RELEASED - Printed documents may be obsolete; validate prior to use.

b. An operational two-way voice communication system will be used during dive operations and to obtain emergency assistance.

c. Decompression, repetitive, and no-decompression tables (as appropriate) will be at the dive location. A depth-time profile, including when appropriate any breathing gas changes, will be maintained for each diver during the dive including decompression.

d. Use of electrical tools, equipment, or explosives will be done in accordance with all applicable federal, state, and local regulations.

e. Dive termination and post-dive procedures will be done in accordance with 29 CFR 1910.422 and 423 respectively.

29. Electrical Safety

a. All electrical work will be performed in accordance with the current edition of the National Electric Code (NEC), National Fire Protection Association (NFPA), OSHA, and contract referenced documents.

<<The SSSP will include a project-specific electrical work job hazard analysis performed by a qualified safety professional.

Contractors performing work on or near Electric Power Generation, Transmission, and Distribution (such as Orsino Substation, C-5 Substation, the Emergency Power Plant, and overhead and underground 15 kilovolt (kV) power distribution systems) will provide a written program for such work as part of their SSSP that is consistent with the requirements of 29 CFR 1910.269; 29 CFR 1910.332 through 29 CFR 1910.334; and IEEE C2 (National Electrical Safety Code).

The electrical safety program specifically addresses the Article 130 requirements for any energized electrical work to be performed by written work permit only. This will include applicable hazard analyses and associated approach boundary and personal protective equipment (PPE) determinations.>>

The written electrical safety program includes JHAs (Ref UG 2814 section 8.1) covering all anticipated or known work to be performed in hazardous locations or on or near energized parts including "routine" tasks not requiring an energized work permit by NFPA 70E.

b. Circuits will be placed in an electrically safe condition by de-energizing, applying lockout/tagout, and verifying lack of voltage using suitable test equipment prior to grounding or performing any work on electrical conductors or electrical circuits.

c. ***<<Company Name>>*** will complete and have approved an electrical system outage work permit for all required outages during the prosecution of work that affects utility systems, such as electrical, water, fire detection and protection systems, and air handling systems will require an electrical system outage work permit. Work will be scheduled to hold outages to a minimum. Request for utility outage permits will be made in writing to the CO at least 14 working days in advance of the time required. The request will include the system involved, area involved, approximate time of outage, and the nature of the work involved.

RELEASED - Printed documents may be obsolete; validate prior to use.

NOTE: Submittal of an outage request does not approve the outage or mean it will take place. Due to the nature of the operations at KSC, ***<<Company Name>>*** may not know until the day before the requested date if the outage will take place as scheduled. All outages will take place outside regular working hours.

d. Energized parts to which an employee might be exposed will be put into an electrically safe work condition before an employee works on or near them. ***<<Company Name>>*** will only request an exception when it can be demonstrated that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations.

e. If energized parts are not placed in an electrically safe work condition (i.e., due to increased or additional hazards or infeasibility), or a task involves an employee crossing the NFPA 70E prohibited approach boundary, the work to be performed will be considered energized electrical work and will be performed under a written Energized Electrical Work Analysis & Authorization Permit Energized Electrical Work Permit only. Energized parts that operate at less than 50 volts to ground need not be de-energized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.

f. If the exposed energized circuits are not de-energized, additional safety related work practices are to be implemented to protect employees who may be exposed to the electrical hazards involved. These work practices are documented in the project electrical JHA and specify actions that will protect employees against contact with energized circuit directly with any part of their body or indirectly through some other conductive object.

g. ***<<Company Name>>*** qualified person (electrical) will conduct a shock hazard analysis to determine the voltage to which personnel will be exposed, boundary requirements, and the personal protective equipment necessary in order to minimize the possibility of electric shock to personnel. Results of the shock hazard analysis are included in this SSSP and will be used to complete the electrical JHA.

h. ***<<Company Name>>*** qualified person (electrical) will conduct a flash hazard analysis in order to protect personnel from the possibility of being injured by an arc flash. The analysis will determine the flash protection boundary and the personal protective equipment that people within the flash protection boundary will use. Personnel working with, on, or around energized circuits will wear appropriate arc flash personal protective equipment as required by NFPA code 70E.

i. For energized work, the site supervisor will conduct a pre-work briefing and document what was covered and the employees who received the prior to starting work.

j. Work performed on or near live parts by qualified persons (electrical) related to tasks such as testing, troubleshooting, and voltage measuring will be permitted to be performed without an energized electrical work permit, provided appropriate safe work practices and personal protective equipment are used.

k. The qualified electrical person will use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and will verify that the circuit elements and equipment parts are de-energized. The test will also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage backfeed even though specific parts of the circuit have been de-energized and presumed to be safe. If the circuit to be tested is over 600 volts, nominal, the test equipment will be checked for proper operation immediately before and after this test.

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l. Prior to reenergizing equipment, the qualified electrical person will conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuits and equipment can be safely energized.

m. Ground fault circuit interrupters (GFCIs) will be utilized on all temporary power and all extension cords will be heavy duty rated and used in conjunction with GFCIs.

n. Temporary electrical wiring required during construction and major repairs will be installed by a qualified electrician and protected with a circuit breaker or fuses.

o. Temporary wiring and extension cords will be protected from damage, and if damaged or spliced removed from service.

30. Equipment

a. The list below represents ***<<Company Name>>*** list of all specialty or heavy equipment (contractor owned, leased, rented, etc.) proposed for use on the contract. ***<<Examples of items on the list are forklifts, lulls, cranes, earth moving equipment, and other power industrial trucks.>>***

1. **<<List Equipment Here>>**

2. **<<List Equipment Here>>**

3. **<<List Equipment Here>>**

b. All operators of equipment are trained. Documentation of training is submitted in accordance with the training and applicable equipment section of this document.

c. ***<<Company Name>>*** will ensure equipment has daily and manufacturer's recommended inspections performed.

d. The use of any tool, material, or equipment which is not in compliance with applicable regulatory requirements will be prohibited on the site. Defective equipment will be removed from service and/or tagged out using KSC Form 20-165 or an equivalent tag to render them inoperable.

31. Excavation

a. All excavation work will conform to the requirements set forth in 29 CFR 1926 Subpart P.

b. ***<<Company Name>>*** will obtain an approved Excavation Notification Worksheet, Dig Permit (KSC Form 28-812NS) anytime any ground is dug into for any reason at any depth. Permits will remain on site for review for the duration of the permit. Any deviations from the approved excavation routing will be approved in advance. Adherence to excavation permit conditions is mandatory.

c. Workers will hand dig all excavations within 24 inches in all directions of a marked located utility line. Workers will also hand dig a pilot trench when called for on the dig permit for all underground utility work along the centerline of new trenches and down to the elevation of the bottom of the new utility.

d. The pilot trench will be carefully opened to determine the existence and location, if any, of existing active underground utilities which will be protected and kept in service. Machine

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excavation may proceed only after it is assured that the pilot trench has satisfactorily located and protected all such existing utilities.

e. Protection will be provided to protect employees from loose rock or soil that could pose a hazard by falling or rolling from an excavated face. Material and equipment will be kept at least 2 feet from the edge of excavations.

f. Daily inspections of excavations, the adjacent areas, and protective systems will be made by a competent person (excavation) for evidence of a situation that could result in possible cave ins, indications of failure of protective systems, hazardous atmosphere, or other hazardous conditions. A record of this inspection will be maintained at the jobsite.

g. A stairway, ladder, ramp, or other safe means of egress will be located in trench excavations that are 4 feet or more in depth, so as to require no more than 25 feet of lateral travel. All excavations 5 feet or greater in depth will have adequate shoring or be sloped at an angle not steeper than 1.5 to 1 vertical. Soil on KSC is classified as type C.

h. If any obstructions, interferences, or unforeseen conditions are encountered (e.g., concrete thrust blocks, direct buried cable below grade, or unidentified utilities), excavations will cease and the Project Construction Inspector and/or COTR will be notified.

i. A thrust block is a configured piece of concrete located underground at water and sewer utility piping to prevent movement from line pressure fluctuations. When excavating soil at locations known to contain buried water or sewer lines, DO NOT remove any buried concrete without prior approval.

32. Fall Protection

***<<Elements required in a site-specific fall protection plan are contained in Figure 8.6: Sample Site-Specific Fall Protection Plan in KNPR 8715.3,* KSC Safety Practices Procedural Requirements. >>**

33. Fire Protection and Prevention

<<Address here the requirements found in section 3.0 of this document: KSC Fire Prevention for Contractors Handbook.>>

34. Hand and Power Tools

a. All portable power tools, whether company-furnished or employee-owned, will be maintained in a safe condition and will meet all applicable ANSI and/or OSHA Standards (29 CFR 1926 Subpart I) for design and use.

b. Tool guards will be in place and functional at all times when in use.

c. All electric tools will be double insulated or grounded.

d. Extension cords used for portable power tools will be ground fault (GFCI) protected unless the cord is plugged into a ground fault protected outlet.

e. Powder actuated tools will only be operated by employees who have been trained to operate these tools and verified by the Site supervisor(s) as trained. ***<<Identify here the standard means of identifying the powder levels of loads used.>>***

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f. Loads (ammunition) will be stored in locked metal containers (limited to 1000 rounds unless stored in an approved explosive storage area), and only the quantity necessary for the specific job will be taken to the jobsite. Keep all explosive materials away from heat sources.

g. Ammunition will remain in the personal control of the authorized operator. It will never be left unattended at the jobsite. Each authorized operator is personally responsible to keep positive control on all ammunition until unused portions are returned to the locked containers in the storage area. Do not leave ammunition in vehicles for extended periods of time.

35. Hazardous Substances

Asbestos Containing Material (ACM):

<<The contractor will provide a written asbestos management and abatement implementation plan as an attachment to the SSSP.

As a part of its asbestos abatement plan, the contractor will describe their approach to implementing the requirements of 29 CFR 1926.1101, the Code of Federal Regulations (CFR) National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 61 Subpart M, the Florida Administrative Code (FAC) requirements FAC 62-257, and the Florida Statute (F.S.) 469 Asbestos Abatement and F.S. 376.60 Asbestos Removal Program Inspection and Notification Fee. The plan will at a minimum address:

a. The scope of work to be performed, including work locations, and site plans showing containments, regulated areas, safety placards/notices and sign locations.

b. Verification of all required asbestos work licensing.

c. Method(s) of handling, packaging, labeling, and disposing of asbestos containing materials (ACM).

d. Pre-work hazard assessment and description of engineering controls, work practices, and selection of PPE.

e. Employee training.

f. Plan for project and employee exposure monitoring.

g. Approach to coordinating abatement planning with KSC Environmental Health, Fire Services, and any resident government or contractor organization.

h. Approach to coordinating pre-work containment inspections and post abatement clearance with KSC Environmental Health.>>

Steel Structure Maintenance (Abrasive Blasting / Surface Preparation / Spray Painting):

<<The contractor will provide a written Toxic Metal Health and Safety plan as an attachment to the SSSP.

As a part of its Toxic Metal Health and Safety plan, the contractor will describe its approach to implementing the requirements of 29 CFR 1926.62 and 1926.1101 – 1152, as applicable. The plan will address:

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a. Employee training.

b. The scope of work to be performed, including work locations and site plans, showing containments, regulated areas, safety placards/notices and sign locations.

c. Pre-work hazard assessment and description of engineering controls, work practices, and selection of PPE. Include negative hazard assessments and objective data for exemption from monitoring requirements, if applicable.

d. Plan for project and employee exposure monitoring as well as contamination (emissions) control measures (i.e., protecting government personnel / equipment or doffing of protective clothing).

e. Approach to coordinating pre-work containment inspection with KSC Environmental Health.>>

Concrete and Masonry Work Involving Exposure to Silica Dusts

<<When work requirements have a potential for producing silica dust from drilling, grinding or mechanically abrading concrete and mortar, the contractor will describe its approach to manage silica dust exposure hazards as a part of its SSSP. The description will at a minimum include:

a. The scope of work to be performed, including work locations, site plans, and controlled work areas, safety placards/notices and sign locations.

b. Pre-work hazard assessment and description of engineering controls, work practices, and selection of PPE.

c. Plan for project and employee exposure monitoring.>>

36. Hearing Loss Prevention and Hazardous Noise

<<When work requirements have a potential for exposure to hazardous noise, the contractor will describe its approach to manage noise exposure hazards as a part of its SSSP. The description will at a minimum include:

a. Approach to implementing the requirements of the OSHA noise standard and KSC noise exposure limits.

b. Employee training and education regarding noise hazards and protection measures.

c. The scope of work to be performed, including noise hazard sources, safety placards/notices and sign locations.

d. Pre-work hazard assessment and description of engineering controls, work practices, and selection of PPE.

e. Plan for project and employee exposure monitoring.>>

f. If high noise may impact resident workers, describe plans to eliminate and/or minimize the effects on these adjacent workers.

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37. Hot Work Permits

a. ***<<Company Name>>*** will obtain a KSC Hot Work Permit(s) from Kennedy Fire Services prior to any:

(1) Hot work for roof construction or repair using a “torch down” method (KSC Form 2-270).

(2) Hot work for demolition, modification, or new construction that includes welding, cutting, burning, open flame and heat producing operations, soldering, heat sealing, or any spark producing operation (e.g., grinding). (KSC Form 2-271)

(3) Hot work for roof construction or repair using “tar kettle” operations (KSC Form 2-272).

b. ***<<Company Name>>*** will work with the project COTR to obtain all applicable hot work permits.

c. ***<<Company Name>>*** understands that the Fire Inspector who issues the permit will perform an onsite inspection and briefing prior to issuing the permit and will inspect the site periodically to ensure hot work requirements are being met and prior to any permit renewal.

d. ***<<Company Name>>*** will comply with all requirements identified on the permit and have the permit posted in a visible and accessible area on the jobsite to employees and inspectors for the duration of operations for which it was issued.

e. All combustible material will be cleared from the hot work area. Fire resistant guards, curtains, or shields will be used where appropriate.

f. All combustibles (trash, debris, wood, etc.) will be removed daily.

g. All flammable liquids and propane cylinders will be removed from roofs at the end of each work day.

h. Flammable gas containers will be of the approved safety type with spark arresting screen in filler neck, cap and vent cap intact, and an attached HMIS label with correct information.

i. The fire watch (where applicable by permit) will be familiar with fire watch duties and will be trained to operate the approved fire extinguishers.

j. A fire watch will monitor all areas where hot work has been performed for the minimum time specified in the permit after hot work is stopped. This includes breaks, lunch, and end of shift.

k. ***<<Company Name>>*** will maintain onsite the type and number of fire extinguishers identified in the permit that is required for the type of work and size of the area of work being performed.

38. Industrial Hygiene

a. ***<<Describe your approach that provides employees with an environment in which occupational health hazards are identified, evaluated, and eliminated or controlled in such a manner that personnel do not suffer adverse health effects as a result of their employment. The description will include at a minimum:***

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(1) Method(s) used to conduct workplace inspections and review of operations / procedures to identify hazardous material and physical agents.

(2) Method(s) to ensure MSDS for materials used in the workplace are reviewed to identify health hazards, symptoms of exposure, and requirements for safe use of the material.

***(3) Method(s) to* ensure contractor employees are aware of hazardous materials and physical agents that may cause injury or illness in the work area, understand the requirements for safe work with these materials and agents, and know what actions to take in an emergency (e.g., chemical spill or release).**

b. Personnel exposures to chemical and/or physical agents will at all times be restricted to levels below regulated exposure limits and as low as reasonably achievable.

39. Ladders and Stairways

a. ***<<Company Name>>*** will ensure that each employee using ladders is trained on recognizing the fall hazards, proper placement, use and construction of, maximum intended load and the standards of 29 CFR 1926.1052 and 1053 as applicable (see training certifications).

b. Ladders

(1) Ladders will be inspected daily and prior to each use and any found to have structural defects will be “tagged out” and remove from the jobsite.

(2) Ladders including job made ladders will be compliant with 29 CFR 1926.1053.

(3) Employees working on ladders will always maintain three points of contact with the ladder, (e.g., one hand and two feet, two hands and one foot). Employees also will keep the belt buckle or the centerline of the body between the rails and will not overreach, put one foot on the ladder and the other on an adjacent surface or object, or carry material, equipment, or tools by hand up or down a ladder.

(4) When selecting ladders, the job application will always be considered, (e.g., use fiberglass ladders for electrical work, Type I ladders for heavy duty work).

(5) Ensure stepladders are used in the fully opened and locked position and that personnel do not stand, sit, or work on or above the last two steps from the top of a stepladder.

c. Stairs

(1) Stairs will be provided for access to office trailers or other transportable work locations.

(2) Riser height and tread width will be uniform throughout any flight of stairs including any foundation structure used as one or more treads of the stairs.

(3) All treads will be slip resistant and the nosing will be of non-slip finish.

(4) All parts will be free of hazardous projections such as protruding nails.

(5) Stairs with 4 or more risers or more than 30 inches in height will be equipped with at least 1

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handrail and 1 stair rail system along each unprotected side or edge.

(6) Handrails and top rails will be capable of withstanding a force of 200 pounds in any downward or outward direction along the top edge.

(7) Midrails, screens, mesh, or equivalent structural members will be provided between the top rail and the stairway steps.

(8) Stairway platforms will be no less than the width of a stairway and a minimum of 30 inches in length measured in the direction of travel.

(9) Standard railings and midrails will be provided on the open sides of all exposed stairways and stair platforms.

(10) Handrails and midrails will be provided on at least one side of closed stairways preferably on the right side descending.

40. Lockout / Tagout (Control of Hazardous Energy)

a. ***<<Company Name>>*** will perform all Lockout/Tagout (LOTO) actions in accordance with 29 CFR 1910.147 and KNPR 8715.3, section 8.5.

b. ***<<Company Name>>*** will evaluate the system or equipment and develop written LOTO procedures performing work requiring LOTO on NASA systems/equipment. The lockout procedures will include at a minimum:

(1) A specific statement of the intended use of the control procedure.

(2) Notification of all affected personnel who work in the area where LOTO is in effect that power is being removed.

(3) Specific procedural steps in sequential order for shutting down the system/equipment energy sources (energy isolation device). An orderly shutdown must be utilized to avoid any increase in hazards to employees as a result of the energy termination.

(4) Identify all the LOTO devices that will be used energy isolation device where they will be applied ensuring all isolation (de-energized) from the relevant energy source(s).

(5) Identify the employee(s) that will affix the LOTO devices for each energy isolating device.

(6) LOTO devices will be affixed in such a manner as to clearly indicate to all personnel that the operation or movement of energy-isolating devices from a de-energized (safe or off) position is prohibited. Where the tag cannot be affixed directly to the energy isolation device it will be placed as close as safely possible and clearly obvious to personnel which energy isolation device it is in use for.

(7) All potentially hazardous stored or residual energy will be relieved, disconnected, restrained, and otherwise rendered safe following of the application of LOTO devices to each energy-isolating device.

(8) Prior to starting work an authorized employee will verify a “zero energy state” (all areas isolated and de-energized).

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(9) If there is the potential for the accumulation of stored energy to a hazardous level, a continuous verification process of energy isolation will be continued until the completion of the activity or that the hazard no longer exists.

c. Energy restoration procedure (only authorized personnel will perform)

(1) Inspect the work area to ensure all nonessential items have been removed and to ensure systems/equipment are operationally intact.

(2) Check work area to ensure all personnel are safety positioned or removed from the area.

(3) After LOTO devices are removed and prior to systems/equipment start, affected employees will be notified that the lockout/tagout devices have been removed.

d. The written LOTO procedure(s) will be coordinated with the project COTR and KSC Institutional Safety Office (SA-E2) prior to any work being done.

e. Equipment capable of being locked out will be locked out prior to performing maintenance or any other activity potentially putting personnel at risk.

f. If equipment lockout cannot be accomplished, the actions identified in the Electrical Safety section of this document apply.

g. ***<<Company Name>>*** will coordinate all facility outages through the project COTR.

h. When LOTO is required for more than one employee working on a system or equipment, each employee will place a lock and tag (multiple lockout device) on the equipment. When the work is completed, locks and tags will be removed and the equipment re-energized in accordance with the written lockout/tagout procedure.

i. ***<<Company Name>>*** will use KSC Form 20-195, KSC Lockout/Tagout Tag to control hazardous energy. The tags will be obtained from the project Safety Specialist. This tag is the only tag authorized for lockout/tagout on KSC. The lockout locks used by ***<<Company Name>>*** will only be used for that purpose.

j. ***<<Company Name>>*** will be responsible for providing any additional equipment (multiple lockout devices, valve covers, chain lengths, etc.) or any other compliant device for lockout of a hazardous energy source.

k. ***<<Company Name>>*** will document tag use on the Lockout/Tagout Control Record (KSC Form 28-915). These forms are available from the Safety Specialist assigned to the contract.

l. A LOTO Control Record will be used to document use of tags. Tags will be used only once then destroyed. At the end of the contract work, ***<<Company Name>>*** will return any unused tags and a copy of the completed LOTO Control Record to the project Safety Specialist.

m. No employee will affix or remove the LOTO device of another employee. A LOTO lock and/or tag will only be removed by the authorized employee that installed it. However, when circumstances dictate no other alternative, the following procedures will be followed and documented by the site supervisor:

(1) The site supervisor or a member of management will be the minimum level authorized to remove a subordinate's LOTO lock and tag. The site supervisor or manager removing the

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LOTO lock and tag will personally ensure the energizing of the system does not pose a hazard to other employees.

(2) Determine the location of the authorized employee that installed the LOTO lock and tag. Call that employee, at home if necessary. Explain the seriousness of the requirement to remove their LOTO lock and tag. If possible, have the authorized employee return to the jobsite and remove the device.

(3) If the employee can be contacted but is unable to return to the jobsite, notify the employee of the intent and rationale to forcibly remove their LOTO lock and tag. If the employee cannot be contacted, they will be informed of the lock removal immediately upon returning to work for the next scheduled shift.

(4) Follow the documented procedure sequence of steps for removal of a LOTO lock and tag that the authorized employee that installed it would have used.

(5) The authorized employee's supervisor that forcibly removed the lock will sign the LOTO log acknowledging the actions taken to remove the LOTO lock and tag. Additionally, the log will be annotated that energy has been restored to the system.

n. The following will be accomplished before beginning a lockout/tagout operation:

(1) Ensure a pre-operations briefing has been performed and the required closeout documentation has been completed and documented.

(2) Ensure all personnel are familiar with the worksite. Conduct a dry run walk through, as necessary.

(3) The presence of a tag on a system or component does not in itself guarantee the equipment is de-energized, but indicates only that the tagged disconnect is not to be operated or reconnected to the energy source. Before performing any work, on electrical systems, employees will use an appropriate test instrument to ensure the circuit is de-energized.

(4) Under no circumstances will a Danger "Do Not Operate" Lockout/Tagout tag be left on normally operating systems or equipment. All tags and locks will be removed prior to restoring power to any systems or equipment. Equipment in test will remain tagged out until ready for return to service.

(5) Tags will be completely filled out using a permanent marker. All entries will be legible.

(6) Prior to installing or removing a Danger "Do Not Operate" Lockout/Tagout tag across an interface of another government/contractor organization, approval will be received from the organization having responsibility for the interface.

(7) Each affected employee will be instructed in the purpose and use of the energy control procedure being utilized.

o. ***<<Company Name>>*** will ensure employees are trained in and aware of lockout/tagout requirements as set forth in applicable OSHA standards, KNPR 8715.3, and this document.

Documentation of employee lockout/tagout training is provided (see Training Certification section).

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p. **<<*Company Name*>>** will ensure specific procedures and notification requirements are conducted with the Institutional Support Contractor (ISC) when work includes Electrical Power Transmission/Distribution System Switches. These system switches will not be operated or LOTO performed without specific authorization by the ISC Power Coordinator.

41. Personal Protective Equipment (PPE)

a. **<<*Company Name*>>** will take all necessary precautions to protect employees and will provide at employer's expense any personnel protective devices and safety equipment required.

b. **<<*Company Name*>>** will assess the worksite to determine if hazards are present which would necessitate the use of PPE. Hard hats, eye protection, safety shoes, respiratory protection, hearing protection, etc. will be used as required.

c. PPE will be used only when other health hazard controls, such as engineering controls, have been shown to be infeasible or inadequate in eliminating or controlling the health hazard.

d. **<<*Company Name*>>** will verify the required written job hazard analysis(or analyses) has/have been performed and that any PPE identified as required based on the analysis is listed.

e. **<<*Company Name*>>** is responsible to ensure that any PPE required is provided, used, and maintained in a sanitary and reliable condition. This includes any employee-owned PPE.

f. Personal Protective Equipment will be stored in a manner to prevent PPE from damage, dust, sunlight, chemical contamination, or extreme temperatures.

g. **<<*Company Name*>>** will ensure that all employees on the job have been trained in the appropriate use of any required personal protective equipment.

h. **<<*Company Name*>>** will document that all employees have received and understood the PPE training provided.

i. Employees will wear approved hard hats as required in the performance of their work. Type G (replaced type A) or E (replaced type B) hardhats as applicable will be used. Type C hardhats will not be used on construction sites at KSC.

j. Approved industrial type safety glasses with side shields meeting the requirements of ANSI Z87.1 will be worn by personnel applicable to the task being performed.

k. **<<*Company Name*>>** highly recommends that all employees wear safety toed shoes or boots. Safety toe work shoes may be required depending on the type of work being performed. When there is a potential for injury to the feet, safety type shoes will be worn.

l. Gloves or other acceptable protection appropriate to the task being performed will be worn anytime there is a potential for hand injury. Personnel who perform tasks with knives will wear a non-cut glove (e.g., Kevlar type).

m. Gloves will not be worn around revolving, rotating, or moving tools or equipment where the glove fabric/material might become caught in the movement of tool blades, discs, or mechanical parts.

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n. Fire retardant clothing will be worn for designated tasks that present a potential for arc flash, flash fire, or explosion.

o. When welding, a welding hood with a number 10-12 lens will be worn. Welders on site will wear a hardhat beneath their welding hoods.

42. Process Safety Management

a. ***<<Company Name>>*** employees, when working in areas covered by the OSHA Process Safety Management (PSM) Standard, will receive an employee awareness briefing on PSM prior to any work occurring.

b. ***<<Company Name>>*** will inform all employees of the known potential fire, explosion, or toxic release hazards associated with a facility in which the contract work is to be performed.

c. ***<<Company Name>>*** employees will be briefed on the applicable provisions of the facility emergency action plan. This will be accomplished by a facility safety briefing prior to the commencement of work.

d. ***<<Company Name>>*** will ensure that any new employees brought to the jobsite receive facility safety training prior to entering designated process areas.

e. The project supervisor will ensure that all subcontractor employees follow the safety rules of the facility including all safe work practices.

f. The project supervisor will inform the project CO, COTR, and assigned Safety Specialist of any unique hazards to the facility presented by the contractor's work, or of facility hazards found during the contractor's work.

43. Radiation Protection

<<Describe your approach to complying with the requirements of KNPR 1860.1 and/or 1860.2, as applicable. As a part of your description, include:

a. A list of sources of ionizing and/or non-ionizing radiation.

b. Coordination of source Use/Authorizations with the KSC Radiation Safety Officer.

c. Implementation of safe use requirements described in applicable Use/Authorizations.

NOTE: This is applicable if the contract involves the use of ionizing or non-ionizing radiation producing equipment, devices, materials, or operations such as radiographic projectors, lasers, radiofrequency (RF)/microwave transmitters, XRF (X-ray fluorescent) detection systems, or radioactive materials. Contractors not involved in these activities should enter "N/A" under this section heading. ***>>***

44. Respiratory Protection

<<Describe your approach to complying with the requirements of the OSHA respiratory protection program (29 CFR 1910.134).

a. Include a pre-exposure assessment of hazardous operations or processes that require use of respiratory protection PPE and how selected the respirators are to be used.

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b. Define exposure monitoring plan in accordance with the applicable requirements of 29 CFR 1926.1000 and demonstrate the proper selection of respiratory PPE.

c. Identify that records will be maintained at the worksite and will be available for government inspection.

d. Define plans for use of KSC facility breathing air systems (d. through g., as applicable).

e. Define approach for ensuring that connectors used in contractor-supplied breathing air systems are incompatible with connectors present on either KSC gas systems or on contractor supplied systems that are used to supply non-respirable gases.

f. Include written certifications to show the contractor-provided breathing air system have been recently inspected and meet Grade D breathing air standards. Alternately, discuss approach for on-site testing of contractor-supplied breathing air by the Government.

g. Explain approach to tag or label connector ends of all lines and flexible hoses of contractor-provided breathing air or non-respirable gas distribution systems. The tags or labels will clearly identify the contents of the lines or hose.>>

45. Rollover Protection for Mobile Equipment

a. Rollover protection devices and seatbelts will be in place on all special purpose equipment at all times. Equipment includes crawler and rubber tired tractors, with or without attachments, such as front end loaders, blades, self propelled earth movers, including pan scrapers, bottom dumps, side dumps, rollers, and graders.

b. Special purpose equipment without rollover protection devices will not be allowed on the construction site.

c. Seatbelts will be utilized on any equipment that is in operation to include when in transit from one location to another on or off KSC.

46. Scaffolding

a. All scaffold assembly, operations, inspections, and disassembly will comply with Subpart L of 29 CFR 1926.

b. ***<<Employee Name>>*** is ***<<Company Name>>***'s designated competent person (scaffolding) for the erection and inspection of any scaffolding systems on this project.

c. No scaffolding will be erected, moved, dismantled, or altered except under the supervision of the competent person (scaffolding).

d. All scaffolds and scaffold components to be used are designed to support at least four times the maximum intended load.

e. Scaffolds will be inspected for visible defects by the competent person (scaffold) before each work shift and after any occurrence which could affect the scaffold's structural integrity. Scaffold users will confirm that a competent person (scaffold) has inspected the scaffolding during that work shift before they access the scaffolding.

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f. The inspection will be documented and available to employees that access the scaffold. ***<<A recommended documentation process includes a tag attached to the scaffold that shows the inspector's name and date/time of each inspection.>>***

g. Guardrails and toe boards will be installed on all open sides and ends of platforms more than four feet above the ground or floor. All planking used is scaffold grade, or equivalent.

h. Scaffolds will not be moved while employees are on them unless the scaffold is a rolling tower type scaffold and ALL of the following conditions are met:

(1) The maximum scaffold height does not exceed twice the minimum base width/length.

(2) The surface on which the scaffold is being moved will be within three degrees of level, and free of pits, holes, and obstructions.

(3) Employees on scaffold will be made aware of the move.

(4) Forces will be applied at points well below five feet above the base of the structure.

(5) No portion of the employee on the scaffold may extend outward beyond the wheels, casters, or other supports.

i. The minimum clearance from power lines for any scaffold component is as follows:

(1) Insulated Lines less than 300 volts	3 feet
(2) Insulated or non-insulated lines less than 50kV	10 feet
(3) Insulated or non-insulated lines greater than 50kV	10 feet + 4 inches (ea. kV > 50 kV)

j. Ladders or any makeshift device such as a box or barrel will not be used to increase the working level height of employees on the scaffold. All work will be accomplished from the scaffold deck.

k. No employee will climb the outside, the frame work, or cross braces of a scaffold. All scaffold access will be by ladder, walkway, ramp, or stairs.

l. No material will be stored on scaffold decks. Material staged on the scaffold deck for immediate installation or use that is not installed or used will be removed from the scaffold when work is stopped for the day.

m. All employees who perform work (scaffold user) while on a scaffold are trained in accordance with the requirements identified in 29 CFR 1926.454.

n. Documentation of employee scaffold user training is provided as part of the safety training section of this document.

47. Steel Erection

<<The contractor will have a Steel Erection Plan that includes a complete final copy of specifications and drawings issued for construction by the design PE and a preconstruction conference and site inspection held between the erector and the

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contractor and others such as the project engineer and fabricator to develop and review the site-specific erection plan.

a. A Steel Erection Plan will include site lay out drawings detailing at a minimum:

(1) Access roads into and through the jobsite for safe delivery and movement of cranes, derricks, trucks, and other necessary equipment, the material to be erected methods for vehicular and pedestrian control.

(2) A firm, properly graded, drained area, readily accessible to the work, with adequate space for safe storage of materials and safe operation of the erector's equipment.

b. A Steel Erection Plan will additionally include the following elements:

(1) Material deliveries, staging, storage.

(2) Coordination with other trades and construction activities.

(3) Crane and derrick selection and placement.

(4) Site prep and path for overhead loads.

(5) A pre-plan of all overhead hoisting and operations.

(6) Critical lift plans including rigging supplies and equipment.

(7) An erection sequence including guying, bracing, bridging, anchor rod and anchor bolt mods, columns and beams (including joists and purlins), connections, decking, ornamental and miscellaneous iron.

(8) A description of the fall protection procedures that will be used in compliance with 29CFR 1926.761.

(9) Special procedures for hazardous non-routine tasks.

(10) A certification for each employee who has received training for performing steel erection operations as required by 29CFR 1926.761.

(11) A list of qualified and competent persons.

(12) A description of procedures that will be utilized in the event of rescue or emergency response.>>

Prior to commencement of steel erection, ***<<Company Name>>*** will ensure the following written notifications have been received:

a. Concrete footings, piers, and walls and the mortar in masonry piers and wall as attained, on the basis of an appropriate ASTM standard test method of field cured samples either 75 percent of the intended minimum compressive design strength of sufficient strength to support the loads imposed during steel erection.

b. Any repairs, replacements, and modification of the anchor bolts were conducted in accordance with 29 CFR, Subpart R, Steel Erection 1926.755(b)

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48. Vehicle Mounted Elevating and Rotating Work Platforms

a. General Requirements for Elevating Work Platforms (EWP) (***include only applicable parts)***

(1) "Field Modification" of aerial lifts for uses other than those intended will be permitted only after the modification has been certified in writing by the manufacturer or by a nationally recognized testing laboratory in accordance with all applicable provisions of ANSI A92-2.

(2) If a request to evaluate a "field modification" is submitted to the manufacturer and a response is not received within a reasonable time period, a Professional Engineer will be assigned to evaluate the unit and calculate a process to modify the unit, adding the necessary fall protection devices necessary to safely use the lift.

(3) Boom and basket load limits specified by the manufacturer will not be exceeded.

(4) Electrical tests performed on high voltage bucket trucks will be made in conformance with the requirements of ANSI A92-2.

(5) When operating aerial lifts under, over, by, or near energized electric power lines, the operator will not approach closer than the restricted approach boundary as defined in NFPA 70E, Table 130.2(C).

(6) A personal fall arrest system is required for all employees in any lift. An energy-absorbing length-adjustable lanyard and full body harness will be used. The lanyard will be connected to an approved anchor point in the basket and adjusted in length in such a manner that it reduces the possibility of the worker falling over the guardrails yet permits the work to be accomplished.

(7) If the employee must exit the lift, the employee will use the double lanyard system. The employee will remain attached to the lift with one lanyard, and will only exit the lift in accordance with the approved safety plan. Employees will not climb over the railings of the lift to exit the lift.

b. Operations

(1) Lift controls will be tested each day prior to use to determine that such controls are in safe working condition.

(2) Fall protection equipment will only be used by personnel that have been properly trained (see training certification). Fall protection equipment will be inspected prior to each use.

(3) Attaching fall arrest or positioning lanyards to an adjacent pole, structure, or equipment while working from an aerial lift will not be permitted.

(4) Employees will always stand firmly on the floor of the basket and will not sit or climb on the railings or edge of the basket or use planks, ladders, or other devices for a work position.

(5) The brakes will be set and outriggers, when required, will be positioned on pads or a solid surface.

(6) Wheel chocks will be installed before using an aerial lift on an incline.

(7) An aerial lift truck will not be moved when the boom is elevated in a working position with employees in the basket.

(8) Articulating boom and extensible boom platforms, primarily designed as personnel carriers,

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will have both platform (upper) and lower controls. Controls will be plainly marked as to their function. Lower level controls will not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

c. Work Practices

(1) Employees will keep all parts of the body inside the platform during raising, lowering, and positioning. This provision does not apply to an occupant of the platform performing the duties of a signal person.

(2) Employees will always stand firmly on the floor of the basket and will not sit or climb on the edge or railings of the basket or use planks, ladders, or other devices to gain additional elevation or for a work position.

(3) Employees will use a double lanyard system if they must exit the lift. The process of exiting the lift will consists of:

- Remain tied in the lift with one lanyard.
- Use the second lanyard to attach to an approved anchorage point on the structure.
- Then disconnect the first lanyard from the lift and the employee exits the lift.
- Reverse the process upon re-entry to the lift.
- 100% fall protection will be maintained throughout the process.

(4) Employees will exit the lift by way of a gate and not by climbing on or over the railing.

(5) Employees will not use the lift as a fall protection tie-off point while performing work from outside the lift.

d. Inspection and Maintenance

(1) Vehicle-mounted elevating and rotating work platforms will be inspected daily or each shift and will not be placed in service if the inspection shows any condition adversely affecting the safety of the vehicle. The following items will be inspected:

(a) Operating controls and associated mechanisms for conditions interfering with proper operation.

(b) Visual and audible safety devices for malfunction.

(c) Hydraulic or pneumatic systems for observable deterioration or excessive leakage.

(d) Fiberglass and other insulating components for visible damage or contamination.

(e) Missing or illegible operational and instructional markings.

(f) Electrical systems of/or related to the aerial device for malfunction, signs of excessive deterioration, dirt and moisture accumulation.

(g) Visual inspection of bolts, pins, and other fasteners for loose, deformed, or missing fasteners and other locking devices.

(2) Any suspected items will be carefully examined or tested and a determination made by a

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qualified person as to whether they constitute a safety hazard. All unsafe items will be replaced or repaired before use.

(3) Where vehicle mounted elevating and rotating work platforms are used daily on more than one shift, they will be examined at the beginning of each shift and if defects are found they will be immediately reported and corrected.

(4) Inspections will be documented, signed, and kept with the equipment at the worksite.

(5) If operators change during the same shift, the new operator will review the inspection document and initial it if the status of the vehicle did not change.

e. Training Requirements

(1) Only properly trained employees will operate an aerial lift (see training certifications).

(2) Training in fall protection equipment is required before operating in an aerial lift.

49. Welding and Cutting Operations

a. All welding and cutting operations will be conducted in accordance with Occupational Safety and Health Administration 29 CFR 1926 Subpart J, KSC Fire Prevention Procedures for Contractors, The National Fire Protection Association 51B.

b. Only employees properly trained and certified to operate welding and torch equipment will operate such equipment.

c. A KSC Hot Work Permit(s) will be obtained from Kennedy Fire Services prior to any hot work for demolition, modification, or new construction that includes welding, cutting, burning, open flame and heat producing operations, soldering, heat sealing, or any spark producing operation (e.g., grinding). (KSC Form 2-271)

d. The contractor will ensure flammable materials are at least 50 feet and combustibles 35 feet from welding operation. Exceptions are only authorized when approved by the KSC Fire Inspector when:

(1) The flammable and combustible materials cannot be relocated.

(2) The work cannot be accomplished by any other means.

(3) The flammable and combustible materials are protected by the use of welding blankets or other fire inspector approved methods.

e. Welding and cutting operations will not be conducted in the vicinity of flammable liquids, gases, vapors, or oxygen enriched atmospheres.

f. Prior to any torch cutting/welding on any painted surface, the coating will be removed a minimum of 4 inches in each direction from the cut/weld point or personal protective equipment requirements in OSHA standard 29 CFR 1926.62 and 1926.354 must be complied with.

g. All work will be properly shielded from observation of the bare arc by adjacent or passing personnel.

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h. Arc welders will conduct inspections daily before beginning operations to ensure their equipment is clear of defects and safe to use and will report any defects to supervision.

i. All portable cylinders used for storage and transportation of compressed gasses will be constructed and maintained in accordance with the regulations of the U.S. Department of Transportation.

j. Cylinders will be legibly marked with either the chemical or trade name of the gas contained. Cylinder labeling/marking will be on the shoulder of the cylinder (***or list other means if this is not practical)*** and marked by a means which is not easily removed.

k. Compressed gas cylinders will be equipped with valves and/or connections that comply with ANSI requirements.

l. Acetylene is flammable and highly explosive when mixed with air. As such, it will be handled and stored safely as follows:

(1) Acetylene will be stored in a vertical position.

(2) Never use acetylene at a pressure higher than 15 psig.

(3) Where cylinders have been lying in a horizontal position, they will stand in an upright position for at least two hours prior to use.

m. Oxygen cylinders in storage will be separated from fuel gas cylinders or other combustible materials a minimum distance of 20 feet or by a non combustible one half hour rated fire resistant barrier at least 5 feet tall.

n. Cylinders will be placed in storage when there is no reasonable anticipation of use within a 24 hour period.

o. Cylinders in use or transport will be stored in an upright position and secured by chain or bracket so as to keep them from falling.

p. When transporting cylinders by a crane or derrick, a cradle, boat, or suitable platform will be used. Slings, chokers, ropes, or electric magnets will not be used for this purpose.

q. Valve protection caps will always be in place when not in use or interconnected. Cylinders will not be dropped, struck, handled roughly, or permitted to strike each other violently.

r. Valve caps will be used to protect valves from damage and not used as a lifting device. Valve protection caps will be installed before moving the cylinder unless the cylinder is secured on a special truck.

50. Working over or Near Water

a. A serviceable United States Coast Guard (USCG) approved life vest or buoyant work vest will be worn by all employees who are required to work within six feet of an unprotected edge that is over or near water and there is a danger of drowning if an employee were to fall.

b. In addition to life or buoyant work vests, a throwable ring buoy with 90 feet of rope attached for emergency rescue will be maintained within 200 feet of the worksite.

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c. The life/work vests and ring buoys will be inspected for defects that might alter their strength or buoyancy prior to and after each use. Defective equipment will be discarded and replaced immediately.

d. A rescue skiff will be immediately available (able to perform rescue within four minutes of the employee entering the water) in the water or adjacent to the work area to assist in emergency rescue.

51. Work Zone Maintenance of Traffic (MOT)

a. Work on this project will include work that will be accomplished on or within 15 feet of the roadway. A work zone safety Management of Traffic (MOT) plan is in accordance with pre-designed plans found in FDOT Design Standard for Traffic Control through Work Zones; Index 600. All MOT planning and implementation will be done in accordance with Florida Department of Transportation standards.

b. All employees working within 15 feet of a roadway or street will wear reflective vests compliant with ANSI/ISEA 107 – 2004 Class 2 High-Visibility Safety Apparel. Class 3 is required for flaggers performing work at night.

c. ***<<Company Name>>*** person managing traffic control set up is trained to the intermediate or advanced MOT level. The Intermediate/Advanced trained MOT person will verify/ensure the control zone is correctly set up prior to the start of each work day.

d. Only trained flagmen will be used to control traffic through work zones. The flagman will have no other duties assigned while the traffic control zone is established.

e. Training certification is included in the training section of this SSSP.

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ATTACHMENT B: SSSP SECTION REQUIREMENTS CHECKLIST

SITE-SPECIFIC SAFETY & HEALTH PLAN REQUIREMENTS CHECKLIST (MANDATORY)	YES	NO
General Information	X	
Voluntary Protection Program Policy	X	
Contractor Employee Training	X	
Accident / Incident (Mishap / Class Call) Reporting	X	
Weather Policy	X	
Clothing	X	
Construction Site Safety	X	
Controlled Areas	X	
Drinking Water	X	
Evacuation (Facility or Area)	X	
First Aid & Medical	X	
Hazard Communications	X	
Heat Stress	X	
Housekeeping	X	
Inspections (Contractor Worksite)	X	
Inspections (KSC Safety Representative)	X	
Job Hazard Analysis	X	
Maximum Work Hour Policy	X	
Pre-Task Meetings	X	
Safety Meetings	X	
Safety Systems (Permanently Installed)	X	
Sanitary Condition and Facilities	X	
Temporary Structures, Trailers and Work Areas	X	
Vehicle Operations	X	

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SITE-SPECIFIC SAFETY & HEALTH PLAN REQUIREMENTS CHECKLIST (PROJECT SPECIFIC)	YES	NO
Confined Space Entry (Permit Required and Non-Permitted)		
Cranes and Lifting Operations		
Demolition		
Dive Operations		
Electrical Safety		
Equipment		
Excavation		
Fall Protection		
Fire Protection and Prevention		
Hand and Power Tools		
Hazardous Substances (Working With or Removing)		
Hearing Loss Prevention and Hazardous Noise		
Hot Work Permits (ID Type:)		
Industrial Hygiene		
Ladders and Stairways		
Lockout / Tagout (Control of Hazardous Energy)		
Personal Protective Equipment (PPE)		
Process Safety Management		
Radiation Protection		
Respiratory Protection		
Rollover Protection for Mobile Equipment		
Scaffolding		
Steel Erection		
Vehicle Mounted Elevating and Rotating Work Platforms		
Welding and Cutting Operations		
Working Over or Near Water		
Work Zone Maintenance of Traffic (MOT)		

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ATTACHMENT C: KSC FIRE PREVENTION PROCEDURES FOR CONTRACTORS

Kennedy Space Center
Fire Prevention Procedures
For Contractors

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EMERGENCY REPORTING

All Emergencies: ***911***

Cellular Phone: 321-867-7911

NON-EMERGENCY ADMINISTRATIVE PHONE NUMBERS:		
• Fire Station 1:	KSC	867-4335
• Fire Station 2:	KSC	867-7725
• Fire Station 3:	KSC	867-6277
• Fire Prevention:	KSC	861-4684

Firefighting, medical, or security personnel can be contacted using the above emergency and non-emergency numbers dialed from administrative phones found in most KSC facilities. Contractors will ensure their personnel are familiar with the location of the nearest fire reporting or administrative telephone and the emergency reporting numbers. The following information is provided to ensure proper fire prevention practices are adhered to while working on Kennedy Space Center and satellite installations.

Report all fire or emergencies immediately, no matter how small or if already extinguished.

When reporting a fire, give the following information:

1. Name of the person reporting the emergency.
2. Location of the emergency (building number, occupancy, location, etc.).
3. What is the emergency?
4. Who will meet the Fire Department when they arrive to direct them to the location of the emergency.

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1.0 GENERAL FIRE PREVENTION PRACTICES

Contractors are responsible for on-site fire prevention and protection while in the process of executing contracts on Kennedy Space Center and satellite installations. Fire prevention and protection policies contained in this handout have been established in accordance with NASA directives, OSHA Code of Federal Regulations, and NFPA Fire Codes.

1.1 Pre-Work Conference

a. The prime project contractor is responsible for briefing his/her employees and subcontractors on fire prevention and protection responsibilities.

b. Project sites will be inspected periodically by fire inspectors to ensure compliance with fire prevention measures.

c. Contract Management will be notified of any areas found to be substandard.

1.2 Housekeeping

Cleanliness is essential to fire prevention. Cleanup of the site will be performed daily or as required. Trash and waste materials inside buildings will be moved to the disposal area at the end of the workday. Upon completion of workday, the contractor will perform a walk-through inspection to check for cleanliness and good housekeeping practices.

1.3 Handling and Storage of Flammable Liquids

a. Elevated fuel storage tanks will be:

(1) Grounded/Bonded

(2) Free of leaks (hose, nozzles, and valves)

(3) Equipped with "No Smoking within 50 feet." signs

(4) Located at least 50 feet from buildings and combustibles

(5) Posted with proper placards/labels

(6) Diesel tanks will be no closer than 10 feet from any facility

b. Small containers of fuel will be **STORED** in Underwriters Laboratories or Factory Mutual and NFPA 30 approved (listed) Flammable Storage Cabinets labeled **"Flammable - Keep Fire Away"**

c. Flammables and any other volatile material will not be stored or left overnight in any building, facility, or structure. They must be removed from worksites at the end of each day and stored in an area previously designated by the Contracting Officer and the KSC Fire Prevention Office. Or they must be removed from the installation.

d. All spills must be reported immediately by calling 911 or (cell) 321-867-7911. How to report a spill? See KSC-KDP-P-3008.

e. Stored containers will be sealed or covered. Leaking containers will be removed from the

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storage area.

f. Wiping rags, drop cloths, paint brushes, and rollers will be stored in covered metal containers at the end of each working day.

g. When floor finishes containing combustible or flammable liquids are used, all sources of ignition will be eliminated and the area well ventilated.

1.4 Smoking

NOTE: Smoking is restricted in many areas of d KSC and is prohibited in all facilities.

a. Smoking is permitted only in designated areas approved by the Fire Prevention Section. Smoking is strictly forbidden on the roof of all facilities.

b. Designated smoking areas will have conspicuous and legible signs posted designating area, and an adequate number of metal containers with self-closing cover devices will be readily available for disposal of smoking material.

c. Each metal container shall have stenciled on it ”SMOKING MATERIAL ONLY.”

d. All cigarette lighting items (e.g., lighters, matches) shall be surrendered to the Gate Security Guard or at entry control points in areas where smoking or flame producing devices are forbidden.

e. At the end of every shift of duty day, all collected smoking material shall be completely extinguished, saturated with water, and removed for disposal in dumpsters.

1.5 Hot Work Operations

1.5.1 Welding, Cutting, Brazing Operations and Open Fires:

a. All welding and cutting operations must be in accordance with Occupational Safety and Health Administration 1910.252, 1926.352, Kennedy Handbook 1710.2, the National Fire Protection Association 51B, and 45 SWI 32-2001.

(1) The Contractor must instruct welder(s) on safety, health, and fire protection matters.

(2) A Permit will be retained at worksite until work is completed.

(3) Flammables must be 50 feet and combustibles 35 feet from welding operation. In certain instances when welding, cutting and/or brazing operations are within 100 feet of flammables or 35 feet of combustible materials and the operation cannot be relocated, exceptions will be approved if the combustibles are protected by the use of welding blankets or other approved methods and only if the work cannot be accomplished by other means. Operations will not be allowed in the vicinity of flammable liquids, gases, vapors or oxygen enriched atmospheres.

(4) If the fire detection protection system is required to be shut off during the operation, the contractor is responsible for notifying the Contracting Officer who will make arrangements for having the system turned off and restored to an operational condition at the end of the day.

b. Hot Work Permits (KSC Form 2-271) are required for all welding, cutting, burning, and brazing operations that are performed outside an area specifically designated for such

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operations. **Permits and renewal requests are to be scheduled through the ISC Duty Office at 861-5050, 72 hours prior to performing the work**. Permits will be issued by fire inspectors for all areas except Launch Support Operations contract controlled fenced areas on KSC, (i.e., Vehicle Assembly Bldg., Rotation Processing Services Facility, Pads A and B, Orbiter Processing Facility, Launch Control Center, and inside M7-961, M7-1061, and M7-1212). Permits may be issued for a period of up to 30 days.

c. The contractor shall provide a fire watch (see Annex A) with the appropriate type fire extinguisher present during all welding and cutting operations. The fire watch will remain on site for at least 30 minutes after completion of the operation to ensure that all sources of ignition are eliminated.

d. In areas where combustibles are present, they will be removed or covered with metal sheets or other noncombustible materials. Vegetation will be wetted down prior to performing welding and cutting.

e. Welding and cutting equipment will be inspected frequently and kept in proper operating condition, free of oils and grease.

f. When the use of any device results in sparks, molten slag, hot chips, etc., the user will prevent them from scattering or coming into contact with persons or combustible material.

g. Open fires are prohibited except when approved in writing by KSC Fire Prevention Office.

1.5.2 Tar Kettle Operations

a. Tar kettle shall be operated in a controlled area. The area shall be identified by the use of barriers.

b. The tar kettle is to be placed not less than 20 feet from the structure. A sturdy barrier 8 feet high and 4 feet beyond each side are required if closer than 20 feet.

c. The Liquefied petroleum gas (LPG) tank or tanks shall be placed no less than 20 feet from the structure and properly secured.

d. The LPG tank or tanks shall be placed 20 feet from the tar kettle with a barrier between them. All tanks shall be properly secured and located to prevent vehicles from hitting them.

e. All connections are to be checked prior to start up of the tar kettle.

f. All piping shall be in compliance with codes.

g. Tar kettles shall not block exits, means of egress, gates, roadways or entrances.

h. There shall be “NO” flammables liquids within 50 feet or combustibles within 35 feet of the tar kettle. Tar block working stock is permitted no closer than 10 feet of the tar kettle. There will be “NO SMOKING” in the work area.

i. Tar block storage shall be maintained no less than 50 feet from the tar kettle/burner equipment.

j. The tar kettle will be manned at all times while in use and for 30 minutes after the burner has been shut down.

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k. The tar kettle shall be SHUT DOWN while refueling.

l. Three 20lb. ABC fire extinguishers shall be provided and maintained by the company operating the tar kettle. Two extinguishers shall be placed within 25 feet of the tar kettle; one extinguisher shall be placed on the roof.

m. All skimmed material shall be placed on a non-combustible surface and material shall be broken-up to prevent heat build-up.

n. The worksite shall be cleaned after each shift (ground area and roof area).

o. In the event of a fire or emergency while on KSC or CCAFS call 911(Cell phone - 321-867-7911).

1.5.3 Torch Down Operations

a. An on-site inspection must be performed by a Fire Inspector before a **HOT WORK** permit is issued (or re-issued).

b. A designated Safety Specialist shall perform a DAILY SITE WALKDOWN to ensure personnel are complying with fire guidelines and regulations.

c. REMOVE all combustibles daily (trash, debris, wood, etc.).

d. All **Flammable Liquids and Propane Cylinders** must be removed from the roof at the end of each work day.

e. Flammable Gas containers must be of the approved safety type with an attached **HIMS** label with correct information.

f. Propane Cylinders shall be separated by 20 feet from the area where **Flammable Liquids** are being used or stored.

g. All Combustibles / **Flammables** used on the roof must be kept at least **35 feet** away from any **Hot Work Operations**.

h. During any **Hot Work** operations, a **Dedicated Fire Watch** shall be assigned.

i. The **Fire Watch** shall be familiar with fire watch duties, and shall be trained to operate the approved fire extinguishers.

j. A Fire Watch shall monitor all areas that hot work had been performed for a minimum of two hours after stopping hot work (i.e., breaks, lunch, end of shift).

k. An INFRA-RED type heat detector shall be used to monitor for hot spots periodically during torch-down operations and during the two hour fire watch after stopping hot work.

l. Personnel working on the roof shall be given instructions on the above requirements and briefed on how to **Evacuate the Roof in the Event of an Emergency**.

m. Personnel shall be informed of the EMERGENCY CELL PHONE NUMBER to call: 911 or 321-**867-7911**.

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n. A 20 lb. **Fire Extinguisher** (compliant with NFPA 10) is required at each torch down operation or hot worksite.

o. All roof openings (i.e. vents, hatches, skylights, roof access, duct work) shall be protected, and “Torch and Flop” or method other than **Torch-Down** shall be used near these locations.

1.6 Fuel Powered Equipment

a. Fuel powered equipment such as air compressors, hoists, pumps, etc. shall be located so that exhaust stacks are well away from combustible material and facility air intakes.

b. Refueling shall not be accomplished while engine is running or hot.

c. Equipment shall be free of fuel and oil leaks.

d. Shall not be used inside buildings or facilities or under facility overhangs.

1.7 Electrical Wiring

a. Temporary wiring required during construction and major repairs shall be installed and supervised by a qualified electrician.

b. Temporary wiring shall be protected with circuit breaker or fuses.

c. Temporary wiring and extension cords shall be protected against mechanical damage.

d. The use of multiple plugs shall be controlled to prevent the overloading of circuits.

e. Service/extension cords that are damaged or spliced shall be removed from service.

f. Portable electrical devices such as saws, sanders, drills, compressors, etc. shall be disconnected at the end of each workday.

1.8 Fire Hydrants Adjacent to Construction Sites

a. Fire hydrants shall only be used with the approval of the **KSC Assistant Chief of Fire Protection at 321-861-4684.**

b. Fire hydrants shall not be blocked. A minimum clearance of 25 feet shall be maintained at all times.

c. The contractor shall place a three-way valve on hydrants used to support construction activities (after approval has been given).

d. At the end of the workday, hoses shall be disconnected from the fire hydrant and the caps replaced.

e. Fire hydrants shall only be opened with a hydrant wrench.

1.9 General

a. Personnel will not tamper with fire alarm detection and suppression systems unless official contract work is to be performed on these systems. The project inspector must make

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arrangements with ***KSC Protective Systems*** at least five working days prior to scheduling an acceptance test of fire alarm systems or sprinkler systems.

b. Any road or access to facilities that will be blocked due to construction or digging shall be reported to the **ISC Consolidated Control Center (867-7627)** at least 24 hours before actual work begins.

c. The use of temporary heaters for personnel warmth will be coordinated with the Fire Inspector and must comply with the National Fire Codes.

d. Portable fire extinguishers and fire detection/suppression devices shall be kept clear and unobstructed at all times.

e. The KSC Fire Prevention Office is available for assistance in any matters pertaining to good fire safety practices. They can be reached at 861-4684 Monday through Friday from 0700 to 1530 hours. After 1500 hours, and on weekends, for questions about fire safety, call 861-8718 or 867-4103.

1.10 Fire Extinguishers

a. Fire Extinguishers (compliant with NFPA 10) shall be provided and maintained by the contractor for use on the jobsite.

b. A fire extinguisher belonging to a facility shall not be considered adequate fire protection in lieu of a contractor provided fire extinguisher for all hot work operations

c. Fire extinguishers and other firefighting equipment shall be visible and accessible at all times.

d. Personnel shall be trained on classification of fires, fire extinguishers, and their uses.

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2.0 CLASSES OF FIRES

CLASS	COMBUSTIBLE MATERIAL	PROPER FIRE EXTINGUISHER
Class A	Wood, Paper, Cloth	ABC Dry Chemical, Water
Class B	Flammable Liquids	ABC Dry Chemical, CO2
Class C	Energized Electrical Equipment	ABC Dry Chemical, CO2
Class D	Combustible Metals	Specialized Dry Powder

Any questions concerning fire prevention or your responsibilities in these matters while operating on KSC, contact the **Assistant Chief of Fire Prevention at 861-4684.**

Note: If a Hot Permit has been requested for a specific time, and at that time Fire Prevention support is not on site, please call the **KSC Fire Prevention Office at 861-4684**.

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3.0 PRE-CONSTRUCTION CONFERENCE REPORT

Project Title:

_____

Project Control Number: _____

Contract Number: _____

Facility Number: _____Location:_____

Prime Contractor: _____

Subcontractor(s): _____ _____ _____

_____ _____ _____

Project Inspector: _____ Phone _____

Contract Administrator: _____ Phone #_____

Start Date: _____ Duration:_____

Remarks: _____

Date: _____BRIEFED BY: _____

The prime contractor was briefed on safe fire prevention procedures to be practiced on KSC and given a brochure (Fire Prevention Procedures for Contractors) which explains procedures in more detail. Emergency reporting numbers and procedures were also explained.

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4.0 Explanatory Material - Hot Work 35 Foot Rule Illustration

Annex A Explanatory Material

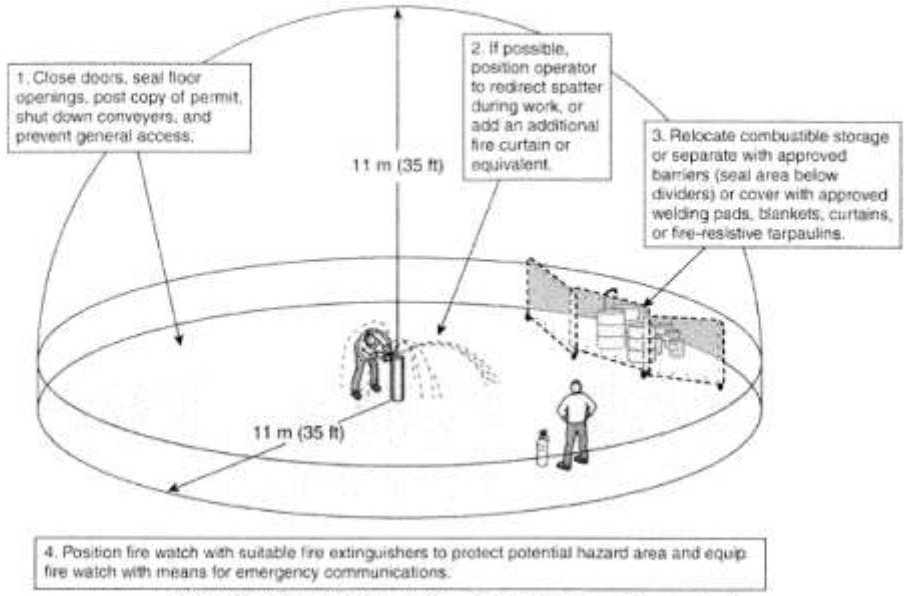
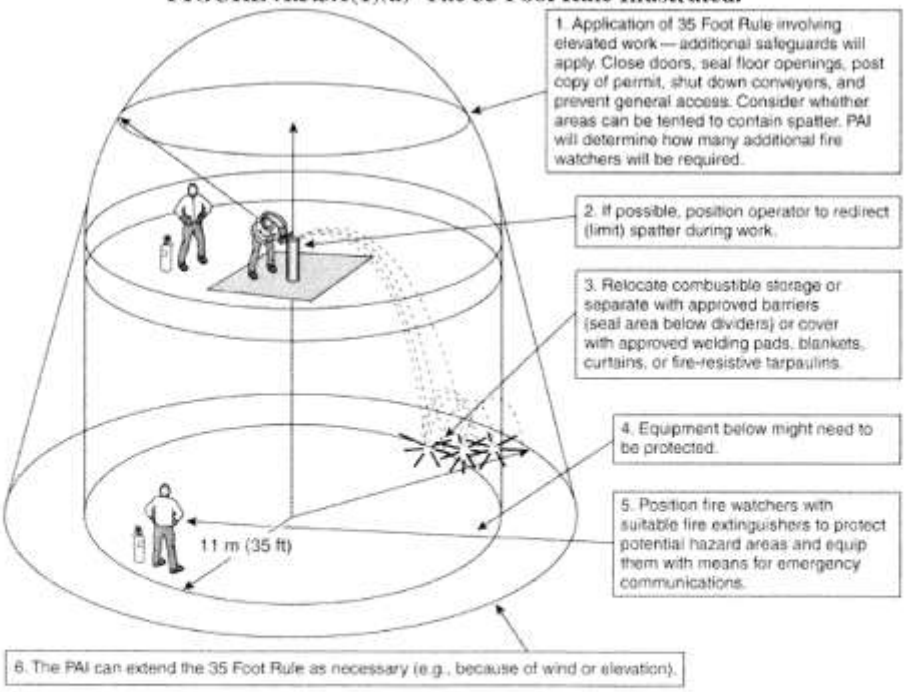


FIGURE A.5.5.1(1)(a) The 35 Foot Rule Illustrated.



RELEASED - Printed documents may be obsolete; validate prior to use.

SECTION J - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

J.H Contractor's Safety and Health Plan (to be incorporated when approved by the Contracting Officer**)**

SECTION J - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

J.I **Contractor's Toxic Metals Safety and Health Plan** (to be incorporated when approved by the Contracting Officer).

SECTION J - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

J.J **Contractor's Lifting and Rigging Plan** (to be incorporated when approved by the Contracting Officer)